Pantheon Report

Generated at 2018-08-23 01:57:06 (UTC).
Data path: Stanford Ethernet (remote) → AWS California 1 Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against time.stanford.edu and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1017-aws
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 33554432
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304

Git summary:
branch: master @ 7719b900495aa706f8452ab7d4a94dd562e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4ddf6ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906e6bb7cf3c3f
third_party/pantheon-tunnel @ 6f038ed31259d366f984065b82cb8f644b1b39
third_party/pcc @ 1afcc955fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f613e8acd08fab924eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3ccff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff19d4974e1da8db2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2bfaf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9d2e4735770d143a1fa2851
test from Stanford to AWS California 1, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1     flow 2     flow 3</td>
<td>flow 1     flow 2     flow 3</td>
<td>flow 1     flow 2     flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>532.28     392.98     324.43</td>
<td>10.30     4.70     4.77</td>
<td>0.04     0.11     0.24</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>284.59     216.04     136.37</td>
<td>1.16      1.15     1.16</td>
<td>0.03     0.07     0.21</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>434.52     377.10     332.85</td>
<td>5.30      3.91     4.26</td>
<td>0.05     0.09     0.22</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>558.96     394.39     292.78</td>
<td>13.06     3.91     4.49</td>
<td>0.14     0.12     0.26</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>567.99     398.53     317.09</td>
<td>12.24     3.86     3.98</td>
<td>0.04     0.09     0.22</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>164.91     152.49     106.20</td>
<td>1.11      1.14     1.19</td>
<td>0.04     0.08     0.19</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>285.24     215.60     150.13</td>
<td>1.73      1.97     1.83</td>
<td>0.04     0.07     0.27</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>635.42     174.10     166.75</td>
<td>2.25      2.19     2.27</td>
<td>0.02     0.11     0.22</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>209.07     109.91     71.40</td>
<td>1.15      1.14     1.06</td>
<td>0.02     0.05     0.25</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>73.65      65.57      52.24</td>
<td>1.04      1.04     1.04</td>
<td>0.05     0.09     0.23</td>
</tr>
<tr>
<td>SCReAM</td>
<td>10</td>
<td>0.22       0.22       0.22</td>
<td>1.20      1.19     1.19</td>
<td>0.07     0.19     0.28</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>21.01      20.91      21.02</td>
<td>1.11      1.10     1.09</td>
<td>0.10     0.06     0.20</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>199.93     192.07     114.90</td>
<td>1.15      1.17     1.41</td>
<td>0.05     0.06     0.18</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>215.04     283.04     336.17</td>
<td>1.53      1.67     1.99</td>
<td>0.05     0.09     0.20</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>184.23     135.94     109.51</td>
<td>5.19      2.02     2.14</td>
<td>0.04     0.07     0.21</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>205.23     93.80      64.99</td>
<td>0.98      0.99     1.00</td>
<td>0.03     0.09     0.26</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>1.53       1.15       0.50</td>
<td>1.10      1.10     1.11</td>
<td>0.02     0.08     0.35</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-08-22 19:03:09
End at: 2018-08-22 19:03:39
Local clock offset: 0.653 ms
Remote clock offset: -0.869 ms

# Below is generated by plot.py at 2018-08-22 23:55:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 890.68 Mbit/s
95th percentile per-packet one-way delay: 5.630 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 522.44 Mbit/s
95th percentile per-packet one-way delay: 6.000 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 390.82 Mbit/s
95th percentile per-packet one-way delay: 5.564 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 325.90 Mbit/s
95th percentile per-packet one-way delay: 5.625 ms
Loss rate: 0.25%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2018-08-22 19:30:00
End at: 2018-08-22 19:30:30
Local clock offset: 0.593 ms
Remote clock offset: 0.349 ms

# Below is generated by plot.py at 2018-08-22 23:55:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 898.11 Mbit/s
  95th percentile per-packet one-way delay: 8.724 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 528.80 Mbit/s
  95th percentile per-packet one-way delay: 9.228 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 393.85 Mbit/s
  95th percentile per-packet one-way delay: 4.662 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 322.96 Mbit/s
  95th percentile per-packet one-way delay: 4.784 ms
  Loss rate: 0.32%
Run 2: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 528.47 Mbit/s)
- Flow 1 egress (mean 528.80 Mbit/s)
- Flow 2 ingress (mean 393.96 Mbit/s)
- Flow 2 egress (mean 393.85 Mbit/s)
- Flow 3 ingress (mean 323.36 Mbit/s)
- Flow 3 egress (mean 322.06 Mbit/s)

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

- Flow 1 (95th percentile 9.23 ms)
- Flow 2 (95th percentile 4.66 ms)
- Flow 3 (95th percentile 4.78 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-08-22 19:56:57
End at: 2018-08-22 19:57:27
Local clock offset: 0.896 ms
Remote clock offset: 3.918 ms

# Below is generated by plot.py at 2018-08-22 23:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.77 Mbit/s
95th percentile per-packet one-way delay: 10.842 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 535.82 Mbit/s
95th percentile per-packet one-way delay: 11.460 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 392.07 Mbit/s
95th percentile per-packet one-way delay: 5.366 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 321.70 Mbit/s
95th percentile per-packet one-way delay: 5.531 ms
Loss rate: 0.26%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1**: Ingress (mean 535.78 Mbps), Egress (mean 535.82 Mbps)
- **Flow 2**: Ingress (mean 392.15 Mbps), Egress (mean 392.07 Mbps)
- **Flow 3**: Ingress (mean 321.86 Mbps), Egress (mean 321.70 Mbps)

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

- **Flow 1**: 95th percentile 11.46 ms
- **Flow 2**: 95th percentile 5.37 ms
- **Flow 3**: 95th percentile 5.53 ms
Run 4: Statistics of TCP BBR

Start at: 2018-08-22 20:23:46
End at: 2018-08-22 20:24:16
Local clock offset: -2.868 ms
Remote clock offset: 3.4 ms

# Below is generated by plot.py at 2018-08-22 23:55:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.56 Mbit/s
95th percentile per-packet one-way delay: 11.236 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 543.66 Mbit/s
95th percentile per-packet one-way delay: 11.701 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 390.58 Mbit/s
95th percentile per-packet one-way delay: 4.480 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 322.22 Mbit/s
95th percentile per-packet one-way delay: 4.521 ms
Loss rate: 0.24%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2018-08-22 20:50:41
End at: 2018-08-22 20:51:11
Local clock offset: -4.689 ms
Remote clock offset: 3.107 ms

# Below is generated by plot.py at 2018-08-22 23:55:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 906.08 Mbit/s
  95th percentile per-packet one-way delay: 9.671 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 536.92 Mbit/s
  95th percentile per-packet one-way delay: 10.159 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 391.96 Mbit/s
  95th percentile per-packet one-way delay: 4.366 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 325.96 Mbit/s
  95th percentile per-packet one-way delay: 4.393 ms
  Loss rate: 0.23%
Run 5: Report of TCP BBR — Data Link
Run 6: Statistics of TCP BBR

Start at: 2018-08-22 21:17:28
End at: 2018-08-22 21:17:58
Local clock offset: -3.261 ms
Remote clock offset: 2.805 ms

# Below is generated by plot.py at 2018-08-22 23:55:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 901.57 Mbit/s
  95th percentile per-packet one-way delay: 9.582 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 530.22 Mbit/s
  95th percentile per-packet one-way delay: 10.154 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 396.88 Mbit/s
  95th percentile per-packet one-way delay: 4.288 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 323.52 Mbit/s
  95th percentile per-packet one-way delay: 4.313 ms
  Loss rate: 0.24%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-08-22 21:44:21
End at: 2018-08-22 21:44:52
Local clock offset: -2.448 ms
Remote clock offset: 2.638 ms

# Below is generated by plot.py at 2018-08-22 23:55:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 906.59 Mbit/s
95th percentile per-packet one-way delay: 10.203 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 536.81 Mbit/s
95th percentile per-packet one-way delay: 10.869 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 393.23 Mbit/s
95th percentile per-packet one-way delay: 4.328 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 325.75 Mbit/s
95th percentile per-packet one-way delay: 4.348 ms
Loss rate: 0.23%
Run 7: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 536.66 Mbit/s)
- Flow 1 egress (mean 536.81 Mbit/s)
- Flow 2 ingress (mean 393.18 Mbit/s)
- Flow 2 egress (mean 393.23 Mbit/s)
- Flow 3 ingress (mean 326.84 Mbit/s)
- Flow 3 egress (mean 325.75 Mbit/s)

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

- Flow 1 (95th percentile 10.87 ms)
- Flow 2 (95th percentile 4.33 ms)
- Flow 3 (95th percentile 4.33 ms)
Run 8: Statistics of TCP BBR

Start at: 2018-08-22 22:11:16
End at: 2018-08-22 22:11:46
Local clock offset: -1.171 ms
Remote clock offset: 2.78 ms

# Below is generated by plot.py at 2018-08-22 23:55:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.51 Mbit/s
95th percentile per-packet one-way delay: 11.462 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 534.40 Mbit/s
95th percentile per-packet one-way delay: 11.893 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 391.24 Mbit/s
95th percentile per-packet one-way delay: 4.173 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 327.20 Mbit/s
95th percentile per-packet one-way delay: 4.181 ms
Loss rate: 0.22%
Run 8: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 534.28 Mbit/s)
- Flow 1 egress (mean 534.40 Mbit/s)
- Flow 2 ingress (mean 391.21 Mbit/s)
- Flow 2 egress (mean 391.24 Mbit/s)
- Flow 3 ingress (mean 327.21 Mbit/s)
- Flow 3 egress (mean 327.28 Mbit/s)

![Graph 2: Packet Delay vs Time (ms)]

- Flow 1 (95th percentile 11.89 ms)
- Flow 2 (95th percentile 4.17 ms)
- Flow 3 (95th percentile 4.18 ms)
Run 9: Statistics of TCP BBR

Start at: 2018-08-22 22:38:04
End at: 2018-08-22 22:38:34
Local clock offset: 1.388 ms
Remote clock offset: -0.745 ms

# Below is generated by plot.py at 2018-08-23 00:05:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 891.69 Mbit/s
95th percentile per-packet one-way delay: 10.668 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 521.29 Mbit/s
95th percentile per-packet one-way delay: 11.163 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 394.83 Mbit/s
95th percentile per-packet one-way delay: 5.474 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 322.61 Mbit/s
95th percentile per-packet one-way delay: 5.628 ms
Loss rate: 0.23%
Run 9: Report of TCP BBR — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 521.27 Mbps)
Flow 1 egress (mean 521.29 Mbps)
Flow 2 ingress (mean 394.89 Mbps)
Flow 2 egress (mean 394.83 Mbps)
Flow 3 ingress (mean 322.66 Mbps)
Flow 3 egress (mean 322.61 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 11.16 ms)
Flow 2 (95th percentile 5.47 ms)
Flow 3 (95th percentile 5.63 ms)
Run 10: Statistics of TCP BBR

Start at: 2018-08-22 23:04:59
End at: 2018-08-22 23:05:29
Local clock offset: 0.792 ms
Remote clock offset: -0.691 ms

# Below is generated by plot.py at 2018-08-23 00:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.22 Mbit/s
95th percentile per-packet one-way delay: 10.022 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 532.48 Mbit/s
95th percentile per-packet one-way delay: 10.407 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 394.36 Mbit/s
95th percentile per-packet one-way delay: 4.308 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 326.43 Mbit/s
95th percentile per-packet one-way delay: 4.354 ms
Loss rate: 0.22%
Run 10: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet end-to-end delay over time.]

- Flow 1 ingress (mean 532.31 Mbit/s) vs Flow 1 egress (mean 532.48 Mbit/s)
- Flow 2 ingress (mean 394.26 Mbit/s) vs Flow 2 egress (mean 394.36 Mbit/s)
- Flow 3 ingress (mean 326.37 Mbit/s) vs Flow 3 egress (mean 326.43 Mbit/s)
Run 1: Statistics of Copa

Start at: 2018-08-22 19:15:51
End at: 2018-08-22 19:16:21
Local clock offset: 0.534 ms
Remote clock offset: -0.428 ms

# Below is generated by plot.py at 2018-08-23 00:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 462.28 Mbit/s
95th percentile per-packet one-way delay: 1.397 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 275.42 Mbit/s
95th percentile per-packet one-way delay: 1.398 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 215.81 Mbit/s
95th percentile per-packet one-way delay: 1.479 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 130.54 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.23%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-08-22 19:42:41
End at: 2018-08-22 19:43:11
Local clock offset: 0.641 ms
Remote clock offset: 2.883 ms

# Below is generated by plot.py at 2018-08-23 00:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.60 Mbit/s
95th percentile per-packet one-way delay: 0.990 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 273.79 Mbit/s
95th percentile per-packet one-way delay: 0.981 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 238.42 Mbit/s
95th percentile per-packet one-way delay: 1.013 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 145.07 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.15%
Run 2: Report of Copa — Data Link

![Graph showing network performance metrics over time with throughput and per-packet one-way delay analysis.]
Run 3: Statistics of Copa

Start at: 2018-08-22 20:09:39
End at: 2018-08-22 20:10:09
Local clock offset: 0.083 ms
Remote clock offset: 3.592 ms

# Below is generated by plot.py at 2018-08-23 00:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 449.29 Mbit/s
95th percentile per-packet one-way delay: 1.340 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 261.22 Mbit/s
95th percentile per-packet one-way delay: 1.378 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 225.39 Mbit/s
95th percentile per-packet one-way delay: 1.307 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 114.78 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.31%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2018-08-22 20:36:29
End at: 2018-08-22 20:36:59
Local clock offset: -3.909 ms
Remote clock offset: 3.651 ms

# Below is generated by plot.py at 2018-08-23 00:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.29 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 300.64 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 216.02 Mbit/s
95th percentile per-packet one-way delay: 1.109 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 153.38 Mbit/s
95th percentile per-packet one-way delay: 1.183 ms
Loss rate: 0.18%
Run 4: Report of Copa — Data Link

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

*Flow 1 ingress (mean 300.53 Mbit/s)*
*Flow 1 egress (mean 300.64 Mbit/s)*
*Flow 2 ingress (mean 215.88 Mbit/s)*
*Flow 2 egress (mean 216.02 Mbit/s)*
*Flow 3 ingress (mean 153.35 Mbit/s)*
*Flow 3 egress (mean 153.38 Mbit/s)*

![Graph 2: Per-packet round-trip delay vs Time](image2)

*Flow 1 (95th percentile 1.15 ms)*
*Flow 2 (95th percentile 1.11 ms)*
*Flow 3 (95th percentile 1.18 ms)*
Run 5: Statistics of Copa

Start at: 2018-08-22 21:03:18
End at: 2018-08-22 21:03:48
Local clock offset: -5.392 ms
Remote clock offset: 3.071 ms

# Below is generated by plot.py at 2018-08-23 00:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 437.77 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 310.53 Mbit/s
95th percentile per-packet one-way delay: 1.031 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 115.02 Mbit/s
95th percentile per-packet one-way delay: 1.059 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 153.03 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.19%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

Start at: 2018-08-22 21:30:09
End at: 2018-08-22 21:30:39
Local clock offset: -2.428 ms
Remote clock offset: 2.698 ms

# Below is generated by plot.py at 2018-08-23 00:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 479.42 Mbit/s
95th percentile per-packet one-way delay: 1.085 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 276.90 Mbit/s
95th percentile per-packet one-way delay: 1.106 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 252.19 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 104.46 Mbit/s
95th percentile per-packet one-way delay: 1.103 ms
Loss rate: 0.18%
Run 6: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 276.81 Mbit/s)
- Flow 1 egress (mean 276.90 Mbit/s)
- Flow 2 ingress (mean 252.12 Mbit/s)
- Flow 2 egress (mean 252.19 Mbit/s)
- Flow 3 ingress (mean 104.45 Mbit/s)
- Flow 3 egress (mean 104.46 Mbit/s)
Run 7: Statistics of Copa

Start at: 2018-08-22 21:57:04
End at: 2018-08-22 21:57:34
Local clock offset: -2.403 ms
Remote clock offset: 2.725 ms

# Below is generated by plot.py at 2018-08-23 00:15:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 483.05 Mbit/s
  95th percentile per-packet one-way delay: 1.199 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 290.16 Mbit/s
  95th percentile per-packet one-way delay: 1.219 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 210.17 Mbit/s
  95th percentile per-packet one-way delay: 1.145 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 159.78 Mbit/s
  95th percentile per-packet one-way delay: 1.244 ms
  Loss rate: 0.12%
Run 7: Report of Copa — Data Link

![Graph showing network performance metrics over time.](image_url)

- **Throughput:**
  - Flow 1 ingress (mean 290.13 Mbit/s)
  - Flow 1 egress (mean 290.16 Mbit/s)
  - Flow 2 ingress (mean 210.08 Mbit/s)
  - Flow 2 egress (mean 210.17 Mbit/s)
  - Flow 3 ingress (mean 159.66 Mbit/s)
  - Flow 3 egress (mean 159.79 Mbit/s)

- **Per-packet one-way delay:**
  - Flow 1 (95th percentile 1.22 ms)
  - Flow 2 (95th percentile 1.15 ms)
  - Flow 3 (95th percentile 1.24 ms)
Run 8: Statistics of Copa

Start at: 2018-08-22 22:24:00
End at: 2018-08-22 22:24:30
Local clock offset: 0.659 ms
Remote clock offset: 1.184 ms

# Below is generated by plot.py at 2018-08-23 00:15:44
# Datalink statistics

-- Total of 3 flows:
Average throughput: 493.91 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.06%

-- Flow 1:
Average throughput: 305.31 Mbit/s
95th percentile per-packet one-way delay: 0.991 ms
Loss rate: 0.02%

-- Flow 2:
Average throughput: 219.70 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.07%

-- Flow 3:
Average throughput: 127.69 Mbit/s
95th percentile per-packet one-way delay: 0.951 ms
Loss rate: 0.32%
Run 8: Report of Copa — Data Link

![Graph showing throughput and packet loss over time for different flows. The graphs illustrate the performance metrics for Flow 1, Flow 2, and Flow 3, with specific details on ingress and egress rates and 95th percentile delays.]

Throughput (Mbps): 0 to 400
Time (s): 0 to 30

- Flow 1 ingress (mean 305.17 Mbps)
- Flow 1 egress (mean 305.31 Mbps)
- Flow 2 ingress (mean 219.61 Mbps)
- Flow 2 egress (mean 219.70 Mbps)
- Flow 3 ingress (mean 127.85 Mbps)
- Flow 3 egress (mean 127.69 Mbps)

Packet loss (per packet one-way delay): 0 to 16
Time (s): 0 to 30

- Flow 1 (95th percentile 0.99 ms)
- Flow 2 (95th percentile 0.96 ms)
- Flow 3 (95th percentile 0.95 ms)
Run 9: Statistics of Copa

Start at: 2018-08-22 22:50:41  
End at: 2018-08-22 22:51:11  
Local clock offset: 0.801 ms  
Remote clock offset: -1.414 ms  

# Below is generated by plot.py at 2018-08-23 00:15:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 476.33 Mbit/s  
95th percentile per-packet one-way delay: 1.156 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 269.95 Mbit/s  
95th percentile per-packet one-way delay: 1.131 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 246.94 Mbit/s  
95th percentile per-packet one-way delay: 1.186 ms  
Loss rate: 0.08%  
-- Flow 3:  
Average throughput: 126.56 Mbit/s  
95th percentile per-packet one-way delay: 1.265 ms  
Loss rate: 0.16%
Run 9: Report of Copa — Data Link
Run 10: Statistics of Copa

Start at: 2018-08-22 23:17:27
End at: 2018-08-22 23:17:57
Local clock offset: 0.631 ms
Remote clock offset: -0.593 ms

# Below is generated by plot.py at 2018-08-23 00:15:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 478.35 Mbit/s
  95th percentile per-packet one-way delay: 1.168 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 282.01 Mbit/s
  95th percentile per-packet one-way delay: 1.173 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 220.75 Mbit/s
  95th percentile per-packet one-way delay: 1.153 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 148.40 Mbit/s
  95th percentile per-packet one-way delay: 1.173 ms
  Loss rate: 0.24%
Run 10: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2018-08-22 19:06:32
End at: 2018-08-22 19:07:02
Local clock offset: 0.612 ms
Remote clock offset: -0.787 ms

# Below is generated by plot.py at 2018-08-23 00:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 763.97 Mbit/s
95th percentile per-packet one-way delay: 4.054 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 415.75 Mbit/s
95th percentile per-packet one-way delay: 3.363 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 349.55 Mbit/s
95th percentile per-packet one-way delay: 2.868 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 349.03 Mbit/s
95th percentile per-packet one-way delay: 4.488 ms
Loss rate: 0.23%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2018-08-22 19:33:22
End at: 2018-08-22 19:33:52
Local clock offset: 0.539 ms
Remote clock offset: 1.364 ms

# Below is generated by plot.py at 2018-08-23 00:15:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 779.29 Mbit/s
  95th percentile per-packet one-way delay: 2.879 ms
  Loss rate: 0.09%
  -- Flow 1:
    Average throughput: 411.78 Mbit/s
    95th percentile per-packet one-way delay: 2.467 ms
    Loss rate: 0.05%
  -- Flow 2:
    Average throughput: 391.43 Mbit/s
    95th percentile per-packet one-way delay: 2.922 ms
    Loss rate: 0.09%
  -- Flow 3:
    Average throughput: 322.60 Mbit/s
    95th percentile per-packet one-way delay: 4.086 ms
    Loss rate: 0.23%
Run 2: Report of TCP Cubic — Data Link

[Graph 1: Throughput (Mb/s) vs Time (s)]

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

Start at: 2018-08-22 20:00:20
End at: 2018-08-22 20:00:50
Local clock offset: 1.053 ms
Remote clock offset: 4.158 ms

# Below is generated by plot.py at 2018-08-23 00:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.23 Mbit/s
95th percentile per-packet one-way delay: 4.380 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 438.49 Mbit/s
95th percentile per-packet one-way delay: 4.356 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 392.01 Mbit/s
95th percentile per-packet one-way delay: 4.393 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 318.28 Mbit/s
95th percentile per-packet one-way delay: 4.400 ms
Loss rate: 0.24%
Run 3: Report of TCP Cubic — Data Link

![Graph showing throughput and packet loss over time for different flows with various mean throughputs and 95th percentile delays.]

- Flow 1 ingress (mean 438.43 Mbit/s)
- Flow 1 egress (mean 438.49 Mbit/s)
- Flow 2 ingress (mean 391.96 Mbit/s)
- Flow 2 egress (mean 392.01 Mbit/s)
- Flow 3 ingress (mean 318.32 Mbit/s)
- Flow 3 egress (mean 318.28 Mbit/s)
Run 4: Statistics of TCP Cubic

Start at: 2018-08-22 20:27:09
End at: 2018-08-22 20:27:39
Local clock offset: -3.206 ms
Remote clock offset: 3.451 ms

# Below is generated by plot.py at 2018-08-23 00:16:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 844.43 Mbit/s
95th percentile per-packet one-way delay: 4.542 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 469.14 Mbit/s
95th percentile per-packet one-way delay: 8.611 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 404.65 Mbit/s
95th percentile per-packet one-way delay: 4.505 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 319.05 Mbit/s
95th percentile per-packet one-way delay: 4.524 ms
Loss rate: 0.22%
Run 4: Report of TCP Cubic — Data Link

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

Legend:
- Dashed blue line: Flow 1 ingress (mean 469.09 Mbit/s), Flow 1 egress (mean 469.14 Mbit/s)
- Green dash-dot line: Flow 2 ingress (mean 404.60 Mbit/s), Flow 2 egress (mean 404.65 Mbit/s)
- Red dotted line: Flow 3 ingress (mean 319.11 Mbit/s), Flow 3 egress (mean 319.05 Mbit/s)
Run 5: Statistics of TCP Cubic

Start at: 2018-08-22 20:54:00
End at: 2018-08-22 20:54:30
Local clock offset: -4.852 ms
Remote clock offset: 3.028 ms

# Below is generated by plot.py at 2018-08-23 00:22:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.75 Mbit/s
95th percentile per-packet one-way delay: 4.426 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 430.48 Mbit/s
95th percentile per-packet one-way delay: 4.412 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 389.95 Mbit/s
95th percentile per-packet one-way delay: 4.433 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 321.29 Mbit/s
95th percentile per-packet one-way delay: 4.441 ms
Loss rate: 0.23%
Run 5: Report of TCP Cubic — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 430.42 Mb/s)
Flow 1 egress (mean 430.48 Mb/s)
Flow 2 ingress (mean 389.90 Mb/s)
Flow 2 egress (mean 389.95 Mb/s)
Flow 3 ingress (mean 321.33 Mb/s)
Flow 3 egress (mean 321.29 Mb/s)

Packet loss (one-way delay) (ms)

Time (s)

Flow 1 (95th percentile 4.41 ms)  Flow 2 (95th percentile 4.43 ms)  Flow 3 (95th percentile 4.44 ms)
Run 6: Statistics of TCP Cubic

Start at: 2018-08-22 21:20:47
End at: 2018-08-22 21:21:17
Local clock offset: -3.023 ms
Remote clock offset: 2.806 ms

# Below is generated by plot.py at 2018-08-23 00:23:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 818.18 Mbit/s
95th percentile per-packet one-way delay: 4.198 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 446.95 Mbit/s
95th percentile per-packet one-way delay: 7.079 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 399.61 Mbit/s
95th percentile per-packet one-way delay: 4.158 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 316.35 Mbit/s
95th percentile per-packet one-way delay: 4.207 ms
Loss rate: 0.17%
Run 6: Report of TCP Cubic — Data Link
Run 7: Statistics of TCP Cubic

Start at: 2018-08-22 21:47:43
Local clock offset: -2.47 ms
Remote clock offset: 2.654 ms

# Below is generated by plot.py at 2018-08-23 00:23:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 797.11 Mbit/s
  95th percentile per-packet one-way delay: 4.348 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 430.19 Mbit/s
  95th percentile per-packet one-way delay: 4.334 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 392.31 Mbit/s
  95th percentile per-packet one-way delay: 4.351 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 317.23 Mbit/s
  95th percentile per-packet one-way delay: 4.367 ms
  Loss rate: 0.23%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-08-22 22:14:37
End at: 2018-08-22 22:15:07
Local clock offset: -0.571 ms
Remote clock offset: 2.779 ms

# Below is generated by plot.py at 2018-08-23 00:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 837.78 Mbit/s
95th percentile per-packet one-way delay: 10.209 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 464.33 Mbit/s
95th percentile per-packet one-way delay: 10.708 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 401.82 Mbit/s
95th percentile per-packet one-way delay: 4.174 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.90 Mbit/s
95th percentile per-packet one-way delay: 4.207 ms
Loss rate: 0.23%
Run 8: Report of TCP Cubic — Data Link

![Graph showing throughput and one-way delay over time for different flows. The graphs display the throughput in Mbps and the one-way delay in ms. The legend indicates the mean throughput for each flow: Flow 1 ingress (mean 464.27 Mbps), Flow 1 egress (mean 464.33 Mbps), Flow 2 ingress (mean 401.77 Mbps), Flow 2 egress (mean 401.82 Mbps), Flow 3 ingress (mean 318.94 Mbps), Flow 3 egress (mean 318.99 Mbps).]
Run 9: Statistics of TCP Cubic

Start at: 2018-08-22 22:41:25
End at: 2018-08-22 22:41:55
Local clock offset: 1.102 ms
Remote clock offset: -0.97 ms

# Below is generated by plot.py at 2018-08-23 00:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 711.00 Mbit/s
95th percentile per-packet one-way delay: 3.151 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 404.38 Mbit/s
95th percentile per-packet one-way delay: 3.155 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 248.15 Mbit/s
95th percentile per-packet one-way delay: 2.794 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 427.01 Mbit/s
95th percentile per-packet one-way delay: 3.330 ms
Loss rate: 0.16%
Run 9: Report of TCP Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 404.31 Mbit/s)
Flow 1 egress (mean 404.38 Mbit/s)
Flow 2 ingress (mean 248.10 Mbit/s)
Flow 2 egress (mean 248.15 Mbit/s)
Flow 3 ingress (mean 426.84 Mbit/s)
Flow 3 egress (mean 427.01 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 3.15 ms)
Flow 2 (95th percentile 2.79 ms)
Flow 3 (95th percentile 3.33 ms)
Run 10: Statistics of TCP Cubic

Start at: 2018-08-22 23:08:20
End at: 2018-08-22 23:08:50
Local clock offset: 0.861 ms
Remote clock offset: -0.65 ms

# Below is generated by plot.py at 2018-08-23 00:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 806.87 Mbit/s
95th percentile per-packet one-way delay: 4.508 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 433.72 Mbit/s
95th percentile per-packet one-way delay: 4.496 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 401.51 Mbit/s
95th percentile per-packet one-way delay: 4.507 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.72 Mbit/s
95th percentile per-packet one-way delay: 4.531 ms
Loss rate: 0.23%
Run 10: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

End at: 2018-08-22 19:22:53
Local clock offset: 0.457 ms
Remote clock offset: -0.339 ms

# Below is generated by plot.py at 2018-08-23 00:28:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 939.32 Mbit/s
95th percentile per-packet one-way delay: 4.933 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 587.23 Mbit/s
95th percentile per-packet one-way delay: 8.062 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 402.13 Mbit/s
95th percentile per-packet one-way delay: 4.772 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 261.67 Mbit/s
95th percentile per-packet one-way delay: 4.935 ms
Loss rate: 0.42%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2018-08-22 19:49:16
End at: 2018-08-22 19:49:46
Local clock offset: 0.824 ms
Remote clock offset: 3.483 ms

# Below is generated by plot.py at 2018-08-23 00:29:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 940.71 Mbit/s
95th percentile per-packet one-way delay: 3.755 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 579.83 Mbit/s
95th percentile per-packet one-way delay: 3.690 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 390.23 Mbit/s
95th percentile per-packet one-way delay: 3.765 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 306.97 Mbit/s
95th percentile per-packet one-way delay: 3.830 ms
Loss rate: 0.23%
Run 2: Report of FillP — Data Link

![Graph showing data link performance metrics.](image-url)
Run 3: Statistics of FillP

Start at: 2018-08-22 20:16:06  
End at: 2018-08-22 20:16:36  
Local clock offset: -1.7 ms  
Remote clock offset: 3.381 ms

# Below is generated by plot.py at 2018-08-23 00:36:05  
# Datalink statistics
-- Total of 3 flows:
Average throughput: 941.26 Mbit/s  
95th percentile per-packet one-way delay: 3.979 ms  
Loss rate: 0.08%
     -- Flow 1:
Average throughput: 580.10 Mbit/s  
95th percentile per-packet one-way delay: 3.832 ms  
Loss rate: 0.05%
     -- Flow 2:
Average throughput: 390.72 Mbit/s  
95th percentile per-packet one-way delay: 4.029 ms  
Loss rate: 0.09%
     -- Flow 3:
Average throughput: 306.16 Mbit/s  
95th percentile per-packet one-way delay: 4.109 ms  
Loss rate: 0.23%
Run 3: Report of FillP — Data Link

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

Throughput (Mbps): 0 to 1000

Time (s): 0 to 30

- Flow 1 Ingress (mean 579.99 Mbps)
- Flow 1 Egress (mean 580.10 Mbps)
- Flow 2 Ingress (mean 390.66 Mbps)
- Flow 2 Egress (mean 390.72 Mbps)
- Flow 3 Ingress (mean 306.21 Mbps)
- Flow 3 Egress (mean 306.16 Mbps)

Delay (ms): 0 to 12

Flow 1 95th percentile 3.83 ms
Flow 2 95th percentile 4.03 ms
Flow 3 95th percentile 4.11 ms
Run 4: Statistics of FillP

Start at: 2018-08-22 20:43:02
End at: 2018-08-22 20:43:32
Local clock offset: -4.38 ms
Remote clock offset: 3.25 ms

# Below is generated by plot.py at 2018-08-23 00:36:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 913.34 Mbit/s
95th percentile per-packet one-way delay: 7.350 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 561.17 Mbit/s
95th percentile per-packet one-way delay: 25.034 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 403.53 Mbit/s
95th percentile per-packet one-way delay: 4.030 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 262.11 Mbit/s
95th percentile per-packet one-way delay: 4.460 ms
Loss rate: 0.30%
Run 4: Report of FillP — Data Link

- **Throughput (Mbps)**
  - Flow 1 Ingress (mean 562.50 Mbps)
  - Flow 1 Egress (mean 561.17 Mbps)
  - Flow 2 Ingress (mean 404.01 Mbps)
  - Flow 2 Egress (mean 403.53 Mbps)
  - Flow 3 Ingress (mean 251.60 Mbps)
  - Flow 3 Egress (mean 262.11 Mbps)

- **Per-packet one way delay (ms)**
  - Flow 1 (95th percentile 25.03 ms)
  - Flow 2 (95th percentile 4.03 ms)
  - Flow 3 (95th percentile 4.44 ms)
Run 5: Statistics of FillP

Start at: 2018-08-22 21:09:49
End at: 2018-08-22 21:10:19
Local clock offset: -4.746 ms
Remote clock offset: 3.031 ms

# Below is generated by plot.py at 2018-08-23 00:36:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 940.28 Mbit/s
95th percentile per-packet one-way delay: 3.519 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 585.00 Mbit/s
95th percentile per-packet one-way delay: 3.514 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 388.72 Mbit/s
95th percentile per-packet one-way delay: 3.474 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 292.36 Mbit/s
95th percentile per-packet one-way delay: 3.577 ms
Loss rate: 0.26%
Run 5: Report of FillP — Data Link
Run 6: Statistics of FillP

Start at: 2018-08-22 21:36:45
End at: 2018-08-22 21:37:15
Local clock offset: -2.266 ms
Remote clock offset: 2.721 ms

# Below is generated by plot.py at 2018-08-23 00:36:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 869.17 Mbit/s
  95th percentile per-packet one-way delay: 4.592 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 503.50 Mbit/s
  95th percentile per-packet one-way delay: 6.219 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 398.20 Mbit/s
  95th percentile per-packet one-way delay: 3.733 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 304.85 Mbit/s
  95th percentile per-packet one-way delay: 3.848 ms
  Loss rate: 0.24%
Run 7: Statistics of FillP

Start at: 2018-08-22 22:03:38
End at: 2018-08-22 22:04:08
Local clock offset: -2.48 ms
Remote clock offset: 2.777 ms

# Below is generated by plot.py at 2018-08-23 00:37:07
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 880.68 Mbit/s
   95th percentile per-packet one-way delay: 10.811 ms
   Loss rate: 0.09%
-- Flow 1:
   Average throughput: 520.65 Mbit/s
   95th percentile per-packet one-way delay: 19.091 ms
   Loss rate: 0.05%
-- Flow 2:
   Average throughput: 393.79 Mbit/s
   95th percentile per-packet one-way delay: 3.729 ms
   Loss rate: 0.10%
-- Flow 3:
   Average throughput: 296.79 Mbit/s
   95th percentile per-packet one-way delay: 3.932 ms
   Loss rate: 0.25%
Run 7: Report of FillP — Data Link
Run 8: Statistics of FillP

Start at: 2018-08-22 22:30:29
End at: 2018-08-22 22:30:59
Local clock offset: 1.06 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-08-23 00:37:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 879.14 Mbit/s
  95th percentile per-packet one-way delay: 20.822 ms
  Loss rate: 0.25%
-- Flow 1:
  Average throughput: 518.94 Mbit/s
  95th percentile per-packet one-way delay: 26.985 ms
  Loss rate: 0.29%
-- Flow 2:
  Average throughput: 396.57 Mbit/s
  95th percentile per-packet one-way delay: 3.730 ms
  Loss rate: 0.16%
-- Flow 3:
  Average throughput: 291.59 Mbit/s
  95th percentile per-packet one-way delay: 3.696 ms
  Loss rate: 0.25%
Run 8: Report of FillP — Data Link

![Throughput over Time](image1)

![Per-packet one-way delay](image2)
Run 9: Statistics of FillP

Start at: 2018-08-22 22:57:18
End at: 2018-08-22 22:57:48
Local clock offset: 0.76 ms
Remote clock offset: -1.084 ms

# Below is generated by plot.py at 2018-08-23 00:42:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 936.91 Mbit/s
95th percentile per-packet one-way delay: 4.107 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 577.80 Mbit/s
95th percentile per-packet one-way delay: 4.552 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 389.63 Mbit/s
95th percentile per-packet one-way delay: 3.905 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 302.29 Mbit/s
95th percentile per-packet one-way delay: 8.382 ms
Loss rate: 0.22%
Run 9: Report of FillP — Data Link

![Graph: Throughput vs Time]

Throughput (Mbps):
- Flow 1 Ingress (mean 577.96 Mbps)
- Flow 1 Egress (mean 577.80 Mbps)
- Flow 2 Ingress (mean 389.63 Mbps)
- Flow 2 Egress (mean 389.63 Mbps)
- Flow 3 Ingress (mean 302.35 Mbps)
- Flow 3 Egress (mean 302.29 Mbps)

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

Per-packet one way delay (ms):
- Flow 1 (95th percentile 4.55 ms)
- Flow 2 (95th percentile 3.90 ms)
- Flow 3 (95th percentile 8.38 ms)
Run 10: Statistics of FILLP

Start at: 2018-08-22 23:24:04
End at: 2018-08-22 23:24:34
Local clock offset: 0.631 ms
Remote clock offset: -0.589 ms

# Below is generated by plot.py at 2018-08-23 00:43:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 935.27 Mbit/s
  95th percentile per-packet one-way delay: 24.216 ms
  Loss rate: 0.29%
-- Flow 1:
  Average throughput: 575.40 Mbit/s
  95th percentile per-packet one-way delay: 29.619 ms
  Loss rate: 0.39%
-- Flow 2:
  Average throughput: 390.39 Mbit/s
  95th percentile per-packet one-way delay: 3.919 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 302.98 Mbit/s
  95th percentile per-packet one-way delay: 4.096 ms
  Loss rate: 0.22%
Run 10: Report of FillIP — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 577.30 Mbps)  Flow 1 egress (mean 575.40 Mbps)
Flow 2 ingress (mean 390.33 Mbps)  Flow 2 egress (mean 390.39 Mbps)
Flow 3 ingress (mean 303.09 Mbps)  Flow 3 egress (mean 302.98 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 29.62 ms)  Flow 2 (95th percentile 3.92 ms)  Flow 3 (95th percentile 4.10 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2018-08-22 19:08:15
End at: 2018-08-22 19:08:45
Local clock offset: 0.686 ms
Remote clock offset: -0.702 ms

# Below is generated by plot.py at 2018-08-23 00:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.62 Mbit/s
95th percentile per-packet one-way delay: 3.904 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 564.45 Mbit/s
95th percentile per-packet one-way delay: 3.943 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 400.48 Mbit/s
95th percentile per-packet one-way delay: 3.841 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 316.30 Mbit/s
95th percentile per-packet one-way delay: 3.935 ms
Loss rate: 0.22%
Run 1: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 564.25 Mbit/s)  Flow 1 egress (mean 564.45 Mbit/s)
Flow 2 ingress (mean 400.42 Mbit/s)  Flow 2 egress (mean 400.48 Mbit/s)
Flow 3 ingress (mean 316.36 Mbit/s)  Flow 3 egress (mean 316.30 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 3.94 ms)  Flow 2 (95th percentile 3.84 ms)  Flow 3 (95th percentile 3.94 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2018-08-22 19:35:06
End at: 2018-08-22 19:35:36
Local clock offset: 0.645 ms
Remote clock offset: 1.656 ms

# Below is generated by plot.py at 2018-08-23 00:49:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 937.44 Mbit/s
95th percentile per-packet one-way delay: 3.904 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 568.44 Mbit/s
95th percentile per-packet one-way delay: 3.774 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 398.06 Mbit/s
95th percentile per-packet one-way delay: 3.911 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 315.44 Mbit/s
95th percentile per-packet one-way delay: 4.035 ms
Loss rate: 0.22%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-22 20:02:05
End at: 2018-08-22 20:02:35
Local clock offset: 1.087 ms
Remote clock offset: 4.248 ms

# Below is generated by plot.py at 2018-08-23 00:49:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 948.40 Mbit/s
95th percentile per-packet one-way delay: 9.541 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 579.80 Mbit/s
95th percentile per-packet one-way delay: 14.806 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 396.45 Mbit/s
95th percentile per-packet one-way delay: 3.624 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 316.96 Mbit/s
95th percentile per-packet one-way delay: 3.756 ms
Loss rate: 0.22%
Run 3: Report of FillP-Sheep — Data Link

![Graph](image)

**Throughput (Mbps)**

- Flow 1 Ingress (mean 579.66 Mbps)
- Flow 1 Egress (mean 579.80 Mbps)
- Flow 2 Ingress (mean 396.38 Mbps)
- Flow 2 Egress (mean 396.45 Mbps)
- Flow 3 Ingress (mean 317.00 Mbps)
- Flow 3 Egress (mean 316.96 Mbps)

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

- Flow 1 (95th percentile 14.81 ms)
- Flow 2 (95th percentile 3.62 ms)
- Flow 3 (95th percentile 3.76 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2018-08-22 20:28:55
End at: 2018-08-22 20:29:25
Local clock offset: -3.443 ms
Remote clock offset: 3.501 ms

# Below is generated by plot.py at 2018-08-23 00:49:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 938.45 Mbit/s
95th percentile per-packet one-way delay: 3.774 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 568.09 Mbit/s
95th percentile per-packet one-way delay: 3.685 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 398.03 Mbit/s
95th percentile per-packet one-way delay: 3.761 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.35 Mbit/s
95th percentile per-packet one-way delay: 3.878 ms
Loss rate: 0.22%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2018-08-22 20:55:45
End at: 2018-08-22 20:56:15
Local clock offset: -4.931 ms
Remote clock offset: 3.016 ms

# Below is generated by plot.py at 2018-08-23 00:50:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 944.13 Mbit/s
95th percentile per-packet one-way delay: 18.952 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 575.60 Mbit/s
95th percentile per-packet one-way delay: 20.131 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 396.55 Mbit/s
95th percentile per-packet one-way delay: 3.805 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 317.09 Mbit/s
95th percentile per-packet one-way delay: 3.940 ms
Loss rate: 0.22%
Run 5: Report of FillP-Sheep — Data Link

![Graph showing network traffic and packet delays over time]
Run 6: Statistics of FillP-Sheep

End at: 2018-08-22 21:23:03
Local clock offset: -2.822 ms
Remote clock offset: 2.686 ms

# Below is generated by plot.py at 2018-08-23 00:50:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 937.71 Mbit/s
95th percentile per-packet one-way delay: 5.572 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 567.80 Mbit/s
95th percentile per-packet one-way delay: 12.390 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 398.67 Mbit/s
95th percentile per-packet one-way delay: 3.738 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 316.35 Mbit/s
95th percentile per-packet one-way delay: 3.840 ms
Loss rate: 0.22%
Run 6: Report of FillP-Sheep — Data Link

![Data Link Throughput Graph]

![Per-packet one-way delay Graph]

- Flow 1 ingress (mean 567.67 Mbit/s)
- Flow 1 egress (mean 567.86 Mbit/s)
- Flow 2 ingress (mean 398.60 Mbit/s)
- Flow 2 egress (mean 398.67 Mbit/s)
- Flow 3 ingress (mean 316.37 Mbit/s)
- Flow 3 egress (mean 316.35 Mbit/s)

- Flow 1 (95th percentile 12.39 ms)
- Flow 2 (95th percentile 3.74 ms)
- Flow 3 (95th percentile 3.84 ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-08-22 21:49:27
End at: 2018-08-22 21:49:57
Local clock offset: -2.385 ms
Remote clock offset: 2.679 ms

# Below is generated by plot.py at 2018-08-23 00:57:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 948.28 Mbit/s
  95th percentile per-packet one-way delay: 3.883 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 579.24 Mbit/s
  95th percentile per-packet one-way delay: 3.942 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 397.39 Mbit/s
  95th percentile per-packet one-way delay: 3.802 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 316.50 Mbit/s
  95th percentile per-packet one-way delay: 3.934 ms
  Loss rate: 0.22%
Run 7: Report of FillP-Sheep — Data Link
Run 8: Statistics of FillP-Sheep

Start at: 2018-08-22 22:16:23
End at: 2018-08-22 22:16:53
Local clock offset: -0.285 ms
Remote clock offset: 2.761 ms

# Below is generated by plot.py at 2018-08-23 00:57:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 932.59 Mbit/s
95th percentile per-packet one-way delay: 18.211 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 560.38 Mbit/s
95th percentile per-packet one-way delay: 20.007 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 401.15 Mbit/s
95th percentile per-packet one-way delay: 3.698 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 318.73 Mbit/s
95th percentile per-packet one-way delay: 3.686 ms
Loss rate: 0.23%
Run 8: Report of FillP-Sheep — Data Link

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

- Flow 1 Ingress (mean 560.23 Mbit/s)
- Flow 1 Egress (mean 560.38 Mbit/s)
- Flow 2 Ingress (mean 401.01 Mbit/s)
- Flow 2 Egress (mean 401.15 Mbit/s)
- Flow 3 Ingress (mean 318.79 Mbit/s)
- Flow 3 Egress (mean 318.73 Mbit/s)

![Graph 2: Per-packet one-way delays vs Time](image2)

- Flow 1 (95th percentile 20.01 ms)
- Flow 2 (95th percentile 3.70 ms)
- Flow 3 (95th percentile 3.69 ms)

99
Run 9: Statistics of FillP-Sheep

Start at: 2018-08-22 22:43:06
End at: 2018-08-22 22:43:36
Local clock offset: 1.01 ms
Remote clock offset: -1.056 ms

# Below is generated by plot.py at 2018-08-23 01:02:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 922.78 Mbit/s
95th percentile per-packet one-way delay: 20.733 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 552.68 Mbit/s
95th percentile per-packet one-way delay: 21.741 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 398.75 Mbit/s
95th percentile per-packet one-way delay: 4.589 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 317.36 Mbit/s
95th percentile per-packet one-way delay: 4.826 ms
Loss rate: 0.23%
Run 9: Report of FillP-Sheep — Data Link

Throughput (Mbps/s)

Time (s)

Flow 1 ingress (mean 552.67 Mbps/s)  Flow 1 egress (mean 552.68 Mbps/s)
Flow 2 ingress (mean 398.87 Mbps/s)  Flow 2 egress (mean 398.75 Mbps/s)
Flow 3 ingress (mean 317.41 Mbps/s)  Flow 3 egress (mean 317.36 Mbps/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 21.74 ms)  Flow 2 (95th percentile 4.59 ms)  Flow 3 (95th percentile 4.83 ms)
Run 10: Statistics of FillP-Sheep

Start at: 2018-08-22 23:10:05
End at: 2018-08-22 23:10:35
Local clock offset: 0.783 ms
Remote clock offset: -0.627 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 934.40 Mbit/s
95th percentile per-packet one-way delay: 15.334 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 563.45 Mbit/s
95th percentile per-packet one-way delay: 17.972 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 399.74 Mbit/s
95th percentile per-packet one-way delay: 3.872 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 317.84 Mbit/s
95th percentile per-packet one-way delay: 3.971 ms
Loss rate: 0.21%
Run 10: Report of FillIP-Sheep — Data Link
Run 1: Statistics of Indigo

Start at: 2018-08-22 19:17:37
End at: 2018-08-22 19:18:07
Local clock offset: 0.446 ms
Remote clock offset: -0.47 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 305.34 Mbit/s
  95th percentile per-packet one-way delay: 1.073 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 160.47 Mbit/s
  95th percentile per-packet one-way delay: 1.030 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 158.18 Mbit/s
  95th percentile per-packet one-way delay: 1.075 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 120.18 Mbit/s
  95th percentile per-packet one-way delay: 1.198 ms
  Loss rate: 0.14%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2018-08-22 19:44:28
End at: 2018-08-22 19:44:58
Local clock offset: 0.747 ms
Remote clock offset: 2.997 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 304.45 Mbit/s
  95th percentile per-packet one-way delay: 1.140 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 172.82 Mbit/s
  95th percentile per-packet one-way delay: 1.134 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 157.67 Mbit/s
  95th percentile per-packet one-way delay: 1.142 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 81.69 Mbit/s
  95th percentile per-packet one-way delay: 1.177 ms
  Loss rate: 0.21%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-08-22 20:11:25
End at: 2018-08-22 20:11:55
Local clock offset: -0.487 ms
Remote clock offset: 3.437 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.21 Mbit/s
  95th percentile per-packet one-way delay: 1.415 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 168.24 Mbit/s
  95th percentile per-packet one-way delay: 1.412 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 148.83 Mbit/s
  95th percentile per-packet one-way delay: 1.416 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 97.79 Mbit/s
  95th percentile per-packet one-way delay: 1.434 ms
  Loss rate: 0.25%
Run 3: Report of Indigo — Data Link

![Throughput Graph]

![Packet Delay Graph]

109
Run 4: Statistics of Indigo

Start at: 2018-08-22 20:38:17  
End at: 2018-08-22 20:38:47  
Local clock offset: ~4.032 ms  
Remote clock offset: 3.443 ms

# Below is generated by plot.py at 2018-08-23 01:02:27  
# Datalink statistics

-- Total of 3 flows:
Average throughput: 296.78 Mbit/s
95th percentile per-packet one-way delay: 1.147 ms
Loss rate: 0.08%

-- Flow 1:
Average throughput: 166.86 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.06%

-- Flow 2:
Average throughput: 156.11 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 0.07%

-- Flow 3:
Average throughput: 78.63 Mbit/s
95th percentile per-packet one-way delay: 1.196 ms
Loss rate: 0.21%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2018-08-22 21:05:03
End at: 2018-08-22 21:05:33
Local clock offset: -5.461 ms
Remote clock offset: 3.03 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.62 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 158.26 Mbit/s
95th percentile per-packet one-way delay: 1.059 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 149.30 Mbit/s
95th percentile per-packet one-way delay: 1.116 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 134.11 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.14%
Run 5: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 158.23 Mbit/s)
- Flow 1 egress (mean 158.26 Mbit/s)
- Flow 2 ingress (mean 149.26 Mbit/s)
- Flow 2 egress (mean 149.30 Mbit/s)
- Flow 3 ingress (mean 134.04 Mbit/s)
- Flow 3 egress (mean 134.11 Mbit/s)
Run 6: Statistics of Indigo

Start at: 2018-08-22 21:31:56
End at: 2018-08-22 21:32:26
Local clock offset: -2.373 ms
Remote clock offset: 2.651 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.40 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.08%
-- Flow 1:
   Average throughput: 168.17 Mbit/s
   95th percentile per-packet one-way delay: 1.088 ms
   Loss rate: 0.04%
-- Flow 2:
   Average throughput: 146.09 Mbit/s
   95th percentile per-packet one-way delay: 1.104 ms
   Loss rate: 0.12%
-- Flow 3:
   Average throughput: 104.28 Mbit/s
   95th percentile per-packet one-way delay: 1.218 ms
   Loss rate: 0.15%
Run 6: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 168.12 Mbit/s)
- Flow 1 egress (mean 168.17 Mbit/s)
- Flow 2 ingress (mean 146.12 Mbit/s)
- Flow 2 egress (mean 146.09 Mbit/s)
- Flow 3 ingress (mean 104.23 Mbit/s)
- Flow 3 egress (mean 104.28 Mbit/s)

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

- Flow 1 (95th percentile 1.09 ms)
- Flow 2 (95th percentile 1.10 ms)
- Flow 3 (95th percentile 1.22 ms)
Run 7: Statistics of Indigo

Start at: 2018-08-22 21:58:52
End at: 2018-08-22 21:59:22
Local clock offset: -2.486 ms
Remote clock offset: 2.711 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.66 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 164.33 Mbit/s
95th percentile per-packet one-way delay: 1.065 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 141.20 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 138.47 Mbit/s
95th percentile per-packet one-way delay: 1.119 ms
Loss rate: 0.28%
Run 7: Report of Indigo — Data Link

---

### Throughput (Mbps)

- Flow 1 ingress (mean 164.26 Mbps)
- Flow 1 egress (mean 164.33 Mbps)
- Flow 2 ingress (mean 141.13 Mbps)
- Flow 2 egress (mean 141.20 Mbps)
- Flow 3 ingress (mean 138.47 Mbps)
- Flow 3 egress (mean 138.47 Mbps)

### Packet Delay (ms)

- Flow 1 (95th percentile 1.06 ms)
- Flow 2 (95th percentile 1.08 ms)
- Flow 3 (95th percentile 1.12 ms)
Run 8: Statistics of Indigo

Start at: 2018-08-22 22:25:49
End at: 2018-08-22 22:26:19
Local clock offset: 0.798 ms
Remote clock offset: 0.849 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.78 Mbit/s
95th percentile per-packet one-way delay: 0.923 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 166.81 Mbit/s
95th percentile per-packet one-way delay: 0.923 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 156.77 Mbit/s
95th percentile per-packet one-way delay: 0.919 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 87.58 Mbit/s
95th percentile per-packet one-way delay: 0.961 ms
Loss rate: 0.22%
Run 8: Report of Indigo — Data Link

[Graphs showing throughput and packet one-way delay over time]
Run 9: Statistics of Indigo

Start at: 2018-08-22 22:52:29
End at: 2018-08-22 22:52:59
Local clock offset: 0.792 ms
Remote clock offset: -1.466 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.19 Mbit/s
95th percentile per-packet one-way delay: 1.097 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 164.16 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 158.39 Mbit/s
95th percentile per-packet one-way delay: 1.122 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 87.41 Mbit/s
95th percentile per-packet one-way delay: 1.172 ms
Loss rate: 0.11%
Run 9: Report of Indigo — Data Link
Run 10: Statistics of Indigo

Start at: 2018-08-22 23:19:15
End at: 2018-08-22 23:19:45
Local clock offset: 0.638 ms
Remote clock offset: -0.582 ms

# Below is generated by plot.py at 2018-08-23 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.51 Mbit/s
95th percentile per-packet one-way delay: 1.186 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 159.00 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 152.39 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 131.83 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.19%
Run 10: Report of Indigo — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 158.95 Mbit/s)  Flow 1 egress (mean 159.00 Mbit/s)
Flow 2 ingress (mean 152.39 Mbit/s)  Flow 2 egress (mean 152.39 Mbit/s)
Flow 3 ingress (mean 131.83 Mbit/s)  Flow 3 egress (mean 131.83 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 1.15 ms)  Flow 2 (95th percentile 1.22 ms)  Flow 3 (95th percentile 1.24 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-08-22 19:19:09
End at: 2018-08-22 19:19:39
Local clock offset: 0.544 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2018-08-23 01:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.50 Mbit/s
95th percentile per-packet one-way delay: 1.870 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 302.44 Mbit/s
95th percentile per-packet one-way delay: 1.686 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 209.54 Mbit/s
95th percentile per-packet one-way delay: 2.089 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 161.45 Mbit/s
95th percentile per-packet one-way delay: 2.073 ms
Loss rate: 0.31%
Run 1: Report of LEDBAT — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress (mean 302.44 Mbps)**
- **Flow 1 egress (mean 302.44 Mbps)**
- **Flow 2 ingress (mean 209.35 Mbps)**
- **Flow 2 egress (mean 209.54 Mbps)**
- **Flow 3 ingress (mean 161.56 Mbps)**
- **Flow 3 egress (mean 161.45 Mbps)**

---

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

- **Flow 1 (95th percentile 1.69 ms)**
- **Flow 2 (95th percentile 2.09 ms)**
- **Flow 3 (95th percentile 2.07 ms)**
Run 2: Statistics of LEDBAT

Start at: 2018-08-22 19:46:00
End at: 2018-08-22 19:46:30
Local clock offset: 0.808 ms
Remote clock offset: 3.114 ms

# Below is generated by plot.py at 2018-08-23 01:03:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 481.53 Mbit/s
95th percentile per-packet one-way delay: 1.843 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 282.79 Mbit/s
95th percentile per-packet one-way delay: 1.741 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 223.54 Mbit/s
95th percentile per-packet one-way delay: 2.021 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 150.03 Mbit/s
95th percentile per-packet one-way delay: 1.844 ms
Loss rate: 0.21%
Run 2: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 282.72 Mbit/s)
- Flow 1 egress (mean 282.79 Mbit/s)
- Flow 2 ingress (mean 223.44 Mbit/s)
- Flow 2 egress (mean 223.54 Mbit/s)
- Flow 3 ingress (mean 150.05 Mbit/s)
- Flow 3 egress (mean 150.03 Mbit/s)

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

- Flow 1 (95th percentile 1.74 ms)
- Flow 2 (95th percentile 2.02 ms)
- Flow 3 (95th percentile 1.84 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-08-22 20:12:56
End at: 2018-08-22 20:13:26
Local clock offset: -0.917 ms
Remote clock offset: 3.405 ms

# Below is generated by plot.py at 2018-08-23 01:03:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 486.44 Mbit/s
  95th percentile per-packet one-way delay: 2.090 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 288.39 Mbit/s
  95th percentile per-packet one-way delay: 1.957 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 226.03 Mbit/s
  95th percentile per-packet one-way delay: 2.292 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 143.54 Mbit/s
  95th percentile per-packet one-way delay: 2.048 ms
  Loss rate: 0.40%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2018-08-22 20:39:48
End at: 2018-08-22 20:40:18
Local clock offset: -4.103 ms
Remote clock offset: 3.363 ms

# Below is generated by plot.py at 2018-08-23 01:04:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 484.85 Mbit/s
95th percentile per-packet one-way delay: 1.852 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 290.83 Mbit/s
95th percentile per-packet one-way delay: 1.778 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 215.76 Mbit/s
95th percentile per-packet one-way delay: 2.008 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 151.63 Mbit/s
95th percentile per-packet one-way delay: 1.739 ms
Loss rate: 0.35%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2018-08-22 21:06:34
End at: 2018-08-22 21:07:04
Local clock offset: -5.529 ms
Remote clock offset: 3.013 ms

# Below is generated by plot.py at 2018-08-23 01:06:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 494.05 Mbit/s
  95th percentile per-packet one-way delay: 1.720 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 296.70 Mbit/s
  95th percentile per-packet one-way delay: 1.638 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 221.97 Mbit/s
  95th percentile per-packet one-way delay: 1.856 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 149.73 Mbit/s
  95th percentile per-packet one-way delay: 1.675 ms
  Loss rate: 0.32%
Run 5: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 296.65 Mbps)
- Flow 1 egress (mean 296.70 Mbps)
- Flow 2 ingress (mean 221.93 Mbps)
- Flow 2 egress (mean 221.97 Mbps)
- Flow 3 ingress (mean 149.91 Mbps)
- Flow 3 egress (mean 149.73 Mbps)

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

- Flow 1 (95th percentile 1.64 ms)
- Flow 2 (95th percentile 1.86 ms)
- Flow 3 (95th percentile 1.68 ms)
Run 6: Statistics of LEDBAT

Start at: 2018-08-22 21:33:27
End at: 2018-08-22 21:33:57
Local clock offset: -2.341 ms
Remote clock offset: 2.632 ms

# Below is generated by plot.py at 2018-08-23 01:06:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 483.64 Mbit/s
95th percentile per-packet one-way delay: 1.888 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 282.05 Mbit/s
95th percentile per-packet one-way delay: 1.827 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 231.35 Mbit/s
95th percentile per-packet one-way delay: 1.996 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 143.65 Mbit/s
95th percentile per-packet one-way delay: 1.821 ms
Loss rate: 0.28%
Run 6: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 281.94 Mbit/s)
- Flow 1 egress (mean 282.05 Mbit/s)
- Flow 2 ingress (mean 231.24 Mbit/s)
- Flow 2 egress (mean 231.35 Mbit/s)
- Flow 3 ingress (mean 143.77 Mbit/s)
- Flow 3 egress (mean 143.65 Mbit/s)
Run 7: Statistics of LEDBAT

Start at: 2018-08-22 22:00:23
End at: 2018-08-22 22:00:53
Local clock offset: -2.379 ms
Remote clock offset: 2.794 ms

# Below is generated by plot.py at 2018-08-23 01:07:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 474.20 Mbit/s
  95th percentile per-packet one-way delay: 1.777 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 283.74 Mbit/s
  95th percentile per-packet one-way delay: 1.738 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 207.37 Mbit/s
  95th percentile per-packet one-way delay: 1.848 ms
  Loss rate: 0.17%
-- Flow 3:
  Average throughput: 158.02 Mbit/s
  95th percentile per-packet one-way delay: 1.771 ms
  Loss rate: 0.14%
Run 7: Report of LEDBAT — Data Link
Run 8: Statistics of LEDBAT

End at: 2018-08-22 22:27:50
Local clock offset: 0.931 ms
Remote clock offset: 0.512 ms

# Below is generated by plot.py at 2018-08-23 01:07:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.70 Mbit/s
95th percentile per-packet one-way delay: 1.520 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 246.77 Mbit/s
95th percentile per-packet one-way delay: 1.426 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 171.14 Mbit/s
95th percentile per-packet one-way delay: 1.581 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 147.64 Mbit/s
95th percentile per-packet one-way delay: 1.739 ms
Loss rate: 0.25%
Run 9: Statistics of LEDBAT

Start at: 2018-08-22 22:54:00
End at: 2018-08-22 22:54:30
Local clock offset: 0.695 ms
Remote clock offset: -1.462 ms

# Below is generated by plot.py at 2018-08-23 01:08:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 491.13 Mbit/s
  95th percentile per-packet one-way delay: 1.841 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 286.98 Mbit/s
  95th percentile per-packet one-way delay: 1.773 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 227.16 Mbit/s
  95th percentile per-packet one-way delay: 1.955 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 159.63 Mbit/s
  95th percentile per-packet one-way delay: 1.842 ms
  Loss rate: 0.25%
Run 9: Report of LEDBAT — Data Link

![Graph 1: Throughput Over Time]

- **Flow 1 ingress (mean 286.87 Mbit/s)**
- **Flow 1 egress (mean 286.98 Mbit/s)**
- **Flow 2 ingress (mean 227.09 Mbit/s)**
- **Flow 2 egress (mean 227.16 Mbit/s)**
- **Flow 3 ingress (mean 159.66 Mbit/s)**
- **Flow 3 egress (mean 159.63 Mbit/s)**

![Graph 2: Packet Overhead Over Time]

- **Flow 1 (95th percentile 1.77 ms)**
- **Flow 2 (95th percentile 1.96 ms)**
- **Flow 3 (95th percentile 1.84 ms)**

141
Run 10: Statistics of LEDBAT

Start at: 2018-08-22 23:20:46
End at: 2018-08-22 23:21:16
Local clock offset: 0.613 ms
Remote clock offset: -0.594 ms

# Below is generated by plot.py at 2018-08-23 01:08:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 484.61 Mbit/s
95th percentile per-packet one-way delay: 1.848 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 291.69 Mbit/s
95th percentile per-packet one-way delay: 1.720 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 222.18 Mbit/s
95th percentile per-packet one-way delay: 2.075 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 135.94 Mbit/s
95th percentile per-packet one-way delay: 1.783 ms
Loss rate: 0.21%
Run 10: Report of LEDBAT — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 291.56 Mbps)
- Blue solid line: Flow 1 egress (mean 291.69 Mbps)
- Green dashed line: Flow 2 ingress (mean 222.12 Mbps)
- Green solid line: Flow 2 egress (mean 222.18 Mbps)
- Red dashed line: Flow 3 ingress (mean 135.94 Mbps)
- Red solid line: Flow 3 egress (mean 135.94 Mbps)

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

Legend:
- Black circles: Flow 1 (95th percentile 1.72 ms)
- Green circles: Flow 2 (95th percentile 2.08 ms)
- Red circles: Flow 3 (95th percentile 1.78 ms)
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-22 19:00:14
End at: 2018-08-22 19:00:44
Local clock offset: 0.61 ms
Remote clock offset: -1.126 ms

# Below is generated by plot.py at 2018-08-23 01:12:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 774.09 Mbit/s
95th percentile per-packet one-way delay: 2.407 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 584.95 Mbit/s
95th percentile per-packet one-way delay: 2.345 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 219.26 Mbit/s
95th percentile per-packet one-way delay: 2.675 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 132.94 Mbit/s
95th percentile per-packet one-way delay: 1.908 ms
Loss rate: 0.18%
Run 1: Report of PCC-Allegro — Data Link

![Graph showing data link performance metrics over time.]
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-22 19:27:06
End at: 2018-08-22 19:27:36
Local clock offset: 0.482 ms
Remote clock offset: -0.338 ms

# Below is generated by plot.py at 2018-08-23 01:13:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.12 Mbit/s
95th percentile per-packet one-way delay: 2.050 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 697.78 Mbit/s
95th percentile per-packet one-way delay: 2.064 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 26.57 Mbit/s
95th percentile per-packet one-way delay: 1.734 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 169.70 Mbit/s
95th percentile per-packet one-way delay: 1.928 ms
Loss rate: 0.17%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

Start at: 2018-08-22 19:54:00
End at: 2018-08-22 19:54:30
Local clock offset: 0.921 ms
Remote clock offset: 3.75 ms

# Below is generated by plot.py at 2018-08-23 01:16:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 852.03 Mbit/s
95th percentile per-packet one-way delay: 2.992 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 574.16 Mbit/s
95th percentile per-packet one-way delay: 2.916 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 323.23 Mbit/s
95th percentile per-packet one-way delay: 3.131 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 192.04 Mbit/s
95th percentile per-packet one-way delay: 2.886 ms
Loss rate: 0.19%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2018-08-22 20:20:50
End at: 2018-08-22 20:21:20
Local clock offset: -2.585 ms
Remote clock offset: 3.363 ms

# Below is generated by plot.py at 2018-08-23 01:16:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 814.80 Mbit/s
95th percentile per-packet one-way delay: 2.230 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 574.76 Mbit/s
95th percentile per-packet one-way delay: 2.164 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 307.51 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 109.23 Mbit/s
95th percentile per-packet one-way delay: 2.868 ms
Loss rate: 0.34%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2018-08-22 20:47:45
End at: 2018-08-22 20:48:15
Local clock offset: -4.642 ms
Remote clock offset: 3.08 ms

# Below is generated by plot.py at 2018-08-23 01:16:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 815.50 Mbit/s
95th percentile per-packet one-way delay: 2.101 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 635.03 Mbit/s
95th percentile per-packet one-way delay: 2.068 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 173.56 Mbit/s
95th percentile per-packet one-way delay: 2.265 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 198.71 Mbit/s
95th percentile per-packet one-way delay: 2.583 ms
Loss rate: 0.16%
Run 5: Report of PCC-Allegro — Data Link
Run 6: Statistics of PCC-Allegro

Start at: 2018-08-22 21:14:32
End at: 2018-08-22 21:15:02
Local clock offset: -3.776 ms
Remote clock offset: 2.928 ms

# Below is generated by plot.py at 2018-08-23 01:17:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 818.00 Mbit/s
95th percentile per-packet one-way delay: 1.898 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 673.64 Mbit/s
95th percentile per-packet one-way delay: 1.893 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 122.27 Mbit/s
95th percentile per-packet one-way delay: 1.730 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 192.71 Mbit/s
95th percentile per-packet one-way delay: 2.204 ms
Loss rate: 0.21%
Run 6: Report of PCC-Allegro — Data Link
Run 7: Statistics of PCC-Allegro

Start at: 2018-08-22 21:41:25
End at: 2018-08-22 21:41:55
Local clock offset: -2.427 ms
Remote clock offset: 2.616 ms

# Below is generated by plot.py at 2018-08-23 01:18:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 809.05 Mbit/s
95th percentile per-packet one-way delay: 2.692 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 586.08 Mbit/s
95th percentile per-packet one-way delay: 2.729 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 274.93 Mbit/s
95th percentile per-packet one-way delay: 2.692 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 122.88 Mbit/s
95th percentile per-packet one-way delay: 1.936 ms
Loss rate: 0.24%
Run 7: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 585.79 Mb/s)
- Flow 1 egress (mean 586.08 Mb/s)
- Flow 2 ingress (mean 274.86 Mb/s)
- Flow 2 egress (mean 274.93 Mb/s)
- Flow 3 ingress (mean 122.93 Mb/s)
- Flow 3 egress (mean 122.88 Mb/s)

- Flow 1 (95th percentile 2.73 ms)
- Flow 2 (95th percentile 2.69 ms)
- Flow 3 (95th percentile 1.94 ms)
Run 8: Statistics of PCC-Allegro

Start at: 2018-08-22 22:08:20
End at: 2018-08-22 22:08:50
Local clock offset: -1.993 ms
Remote clock offset: 2.775 ms

# Below is generated by plot.py at 2018-08-23 01:18:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 821.54 Mbit/s
95th percentile per-packet one-way delay: 1.998 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 692.91 Mbit/s
95th percentile per-packet one-way delay: 2.022 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 172.56 Mbit/s
95th percentile per-packet one-way delay: 1.814 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 42.76 Mbit/s
95th percentile per-packet one-way delay: 1.512 ms
Loss rate: 0.39%
Run 8: Report of PCC-Allegro — Data Link

![Graph 1]

![Graph 2]
Run 9: Statistics of PCC-Allegro

Start at: 2018-08-22 22:35:10
End at: 2018-08-22 22:35:40
Local clock offset: 1.429 ms
Remote clock offset: -0.45 ms

# Below is generated by plot.py at 2018-08-23 01:22:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.28 Mbit/s
95th percentile per-packet one-way delay: 2.040 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 635.98 Mbit/s
95th percentile per-packet one-way delay: 2.056 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 69.25 Mbit/s
95th percentile per-packet one-way delay: 1.637 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 208.14 Mbit/s
95th percentile per-packet one-way delay: 1.937 ms
Loss rate: 0.17%
Run 9: Report of PCC-Allegro — Data Link

---

---

161
Run 10: Statistics of PCC-Allegro

Start at: 2018-08-22 23:02:03
End at: 2018-08-22 23:02:33
Local clock offset: 0.805 ms
Remote clock offset: -0.806 ms

# Below is generated by plot.py at 2018-08-23 01:23:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 831.47 Mbit/s
95th percentile per-packet one-way delay: 2.252 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 698.92 Mbit/s
95th percentile per-packet one-way delay: 2.212 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 51.86 Mbit/s
95th percentile per-packet one-way delay: 1.858 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 298.42 Mbit/s
95th percentile per-packet one-way delay: 2.911 ms
Loss rate: 0.14%
Run 10: Report of PCC-Allegro — Data Link

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 698.59 Mbps)  Flow 1 egress (mean 698.92 Mbps)
Flow 2 ingress (mean 51.88 Mbps)  Flow 2 egress (mean 51.86 Mbps)
Flow 3 ingress (mean 298.09 Mbps)  Flow 3 egress (mean 298.42 Mbps)

Per-packet one way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 2.21 ms)  Flow 2 (95th percentile 1.86 ms)  Flow 3 (95th percentile 2.91 ms)
Run 1: Statistics of PCC-Expr

Start at: 2018-08-22 19:25:30
End at: 2018-08-22 19:26:00
Local clock offset: 0.557 ms
Remote clock offset: -0.345 ms

# Below is generated by plot.py at 2018-08-23 01:23:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 290.56 Mbit/s
  95th percentile per-packet one-way delay: 1.145 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 219.80 Mbit/s
  95th percentile per-packet one-way delay: 1.147 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 74.02 Mbit/s
  95th percentile per-packet one-way delay: 1.162 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 65.51 Mbit/s
  95th percentile per-packet one-way delay: 1.107 ms
  Loss rate: 0.15%
Run 2: Statistics of PCC-Expr

Start at: 2018-08-22 19:52:23
End at: 2018-08-22 19:52:53
Local clock offset: 0.886 ms
Remote clock offset: 3.675 ms

# Below is generated by plot.py at 2018-08-23 01:23:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.97 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 206.34 Mbit/s
95th percentile per-packet one-way delay: 1.128 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 117.33 Mbit/s
95th percentile per-packet one-way delay: 1.286 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 74.68 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.38%
Run 2: Report of PCC-Expr — Data Link

![Graph showing network traffic over time]

- **Throughput (Mb/s)**
  - **Flow 1 ingress (mean 206.29 Mb/s)**
  - **Flow 1 egress (mean 206.34 Mb/s)**
  - **Flow 2 ingress (mean 117.28 Mb/s)**
  - **Flow 2 egress (mean 117.33 Mb/s)**
  - **Flow 3 ingress (mean 74.62 Mb/s)**
  - **Flow 3 egress (mean 74.68 Mb/s)**

- **Per-packet one-way delay (ms)**
  - **Flow 1 (95th percentile 1.13 ms)**
  - **Flow 2 (95th percentile 1.29 ms)**
  - **Flow 3 (95th percentile 1.15 ms)**
Run 3: Statistics of PCC-Expr

Start at: 2018-08-22 20:19:13
End at: 2018-08-22 20:19:43
Local clock offset: -2.257 ms
Remote clock offset: 3.338 ms

# Below is generated by plot.py at 2018-08-23 01:23:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 313.37 Mbit/s
  95th percentile per-packet one-way delay: 1.423 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 202.53 Mbit/s
  95th percentile per-packet one-way delay: 1.363 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 130.30 Mbit/s
  95th percentile per-packet one-way delay: 1.567 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 73.68 Mbit/s
  95th percentile per-packet one-way delay: 1.391 ms
  Loss rate: 0.24%
Run 3: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 202.45 Mbit/s)
- Flow 1 egress (mean 202.53 Mbit/s)
- Flow 2 ingress (mean 130.28 Mbit/s)
- Flow 2 egress (mean 130.30 Mbit/s)
- Flow 3 ingress (mean 73.74 Mbit/s)
- Flow 3 egress (mean 73.68 Mbit/s)
Run 4: Statistics of PCC-Expr

Start at: 2018-08-22 20:46:07
End at: 2018-08-22 20:46:37
Local clock offset: -4.459 ms
Remote clock offset: 3.066 ms

# Below is generated by plot.py at 2018-08-23 01:24:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.36 Mbit/s
95th percentile per-packet one-way delay: 1.317 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 196.51 Mbit/s
95th percentile per-packet one-way delay: 1.344 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 145.03 Mbit/s
95th percentile per-packet one-way delay: 1.311 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 65.18 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.24%
Run 4: Report of PCC-Expr — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 196.41 Mbps)
Flow 1 egress (mean 196.51 Mbps)
Flow 2 ingress (mean 144.92 Mbps)
Flow 2 egress (mean 145.03 Mbps)
Flow 3 ingress (mean 65.24 Mbps)
Flow 3 egress (mean 65.18 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 1.34 ms)
Flow 2 (95th percentile 1.31 ms)
Flow 3 (95th percentile 1.20 ms)
Run 5: Statistics of PCC-Expr

Start at: 2018-08-22 21:12:55
End at: 2018-08-22 21:13:25
Local clock offset: -4.053 ms
Remote clock offset: 2.932 ms

# Below is generated by plot.py at 2018-08-23 01:25:34

# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.62 Mbit/s
95th percentile per-packet one-way delay: 0.953 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 228.20 Mbit/s
95th percentile per-packet one-way delay: 0.990 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 88.52 Mbit/s
95th percentile per-packet one-way delay: 0.891 ms
Loss rate: 0.22%
Run 5: Report of PCC-Expr — Data Link

[Graph showing throughput and one-way delay over time for different flows with respective mean and 95th percentile delays and rates.]
Run 6: Statistics of PCC-Expr

Start at: 2018-08-22 21:39:50
End at: 2018-08-22 21:40:20
Local clock offset: -2.401 ms
Remote clock offset: 2.665 ms

# Below is generated by plot.py at 2018-08-23 01:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 273.69 Mbit/s
95th percentile per-packet one-way delay: 1.067 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 201.75 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 77.62 Mbit/s
95th percentile per-packet one-way delay: 1.082 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 61.76 Mbit/s
95th percentile per-packet one-way delay: 1.020 ms
Loss rate: 0.13%
Run 6: Report of PCC-Expr — Data Link
Run 7: Statistics of PCC-Expr

Start at: 2018-08-22 22:06:44
End at: 2018-08-22 22:07:14
Local clock offset: -2.403 ms
Remote clock offset: 2.762 ms

# Below is generated by plot.py at 2018-08-23 01:28:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 288.80 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 193.47 Mbit/s
95th percentile per-packet one-way delay: 1.249 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 114.62 Mbit/s
95th percentile per-packet one-way delay: 0.986 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 0.940 ms
Loss rate: 0.30%
Run 7: Report of PCC-Expr — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 193.38 Mbps)
Flow 1 egress (mean 193.47 Mbps)
Flow 2 ingress (mean 114.55 Mbps)
Flow 2 egress (mean 114.62 Mbps)
Flow 3 ingress (mean 58.12 Mbps)
Flow 3 egress (mean 58.07 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 1.25 ms)
Flow 2 (95th percentile 0.99 ms)
Flow 3 (95th percentile 0.94 ms)
Run 8: Statistics of PCC-Expr

Start at: 2018-08-22 22:33:34
End at: 2018-08-22 22:34:04
Local clock offset: 1.231 ms
Remote clock offset: -0.31 ms

# Below is generated by plot.py at 2018-08-23 01:28:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 282.38 Mbit/s
  95th percentile per-packet one-way delay: 1.021 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 184.80 Mbit/s
  95th percentile per-packet one-way delay: 1.046 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 104.01 Mbit/s
  95th percentile per-packet one-way delay: 0.983 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 86.31 Mbit/s
  95th percentile per-packet one-way delay: 0.938 ms
  Loss rate: 0.32%
Run 8: Report of PCC-Expr — Data Link

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

Throughput (Mbps):
- Flow 1 ingress (mean 184.69 Mbps)
- Flow 1 egress (mean 184.80 Mbps)
- Flow 2 ingress (mean 103.96 Mbps)
- Flow 2 egress (mean 104.01 Mbps)
- Flow 3 ingress (mean 86.41 Mbps)
- Flow 3 egress (mean 86.31 Mbps)

Packet Loss:
- Flow 1 (95th percentile 1.05 ms)
- Flow 2 (95th percentile 0.98 ms)
- Flow 3 (95th percentile 0.94 ms)
Run 9: Statistics of PCC-Expr

Start at: 2018-08-22 23:00:24
End at: 2018-08-22 23:00:54
Local clock offset: 0.805 ms
Remote clock offset: -0.821 ms

# Below is generated by plot.py at 2018-08-23 01:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.97 Mbit/s
95th percentile per-packet one-way delay: 1.163 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 218.52 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 132.30 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 62.27 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.31%
Run 9: Report of PCC-Expr — Data Link

![Graph showing throughput and packet end-to-end delay over time.

Legend:
- Flow 1 ingress (mean 218.30 Mbit/s)
- Flow 1 egress (mean 218.52 Mbit/s)
- Flow 2 ingress (mean 132.24 Mbit/s)
- Flow 2 egress (mean 132.30 Mbit/s)
- Flow 3 ingress (mean 62.34 Mbit/s)
- Flow 3 egress (mean 62.27 Mbit/s)]
Run 10: Statistics of PCC-Expr

Start at: 2018-08-22 23:27:10
End at: 2018-08-22 23:27:40
Local clock offset: 0.545 ms
Remote clock offset: -0.596 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 348.70 Mbit/s
  95th percentile per-packet one-way delay: 0.959 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 238.75 Mbit/s
  95th percentile per-packet one-way delay: 0.971 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 126.77 Mbit/s
  95th percentile per-packet one-way delay: 0.948 ms
  Loss rate: 0.03%
-- Flow 3:
  Average throughput: 78.06 Mbit/s
  95th percentile per-packet one-way delay: 0.891 ms
  Loss rate: 0.20%
Run 10: Report of PCC-Expr — Data Link

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

Legend:
- Flow 1 ingress (mean 238.61 Mbit/s)
- Flow 1 egress (mean 238.75 Mbit/s)
- Flow 2 ingress (mean 126.69 Mbit/s)
- Flow 2 egress (mean 126.77 Mbit/s)
- Flow 3 ingress (mean 78.07 Mbit/s)
- Flow 3 egress (mean 78.06 Mbit/s)
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-22 19:24:07
End at: 2018-08-22 19:24:37
Local clock offset: 0.544 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.86 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 74.07 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 64.37 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 1.098 ms
Loss rate: 0.19%
Run 2: Statistics of QUIC Cubic

Start at: 2018-08-22 19:51:00
End at: 2018-08-22 19:51:30
Local clock offset: 0.782 ms
Remote clock offset: 3.576 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 135.85 Mbit/s
  95th percentile per-packet one-way delay: 1.009 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 77.95 Mbit/s
  95th percentile per-packet one-way delay: 1.010 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 62.18 Mbit/s
  95th percentile per-packet one-way delay: 1.004 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 51.79 Mbit/s
  95th percentile per-packet one-way delay: 1.011 ms
  Loss rate: 0.37%
Run 3: Statistics of QUIC Cubic

Start at: 2018-08-22 20:17:50
End at: 2018-08-22 20:18:20
Local clock offset: -2.087 ms
Remote clock offset: 3.361 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.62 Mbit/s
95th percentile per-packet one-way delay: 1.194 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 74.46 Mbit/s
95th percentile per-packet one-way delay: 1.185 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 67.11 Mbit/s
95th percentile per-packet one-way delay: 1.194 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 53.06 Mbit/s
95th percentile per-packet one-way delay: 1.212 ms
Loss rate: 0.24%
Run 3: Report of QUIC Cubic — Data Link

![Graph showing throughput and packet delay over time for different flows.](image-url)
Run 4: Statistics of QUIC Cubic

Start at: 2018-08-22 20:44:45
End at: 2018-08-22 20:45:15
Local clock offset: -4.38 ms
Remote clock offset: 3.159 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.88 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 70.55 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 66.79 Mbit/s
95th percentile per-packet one-way delay: 1.128 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 48.17 Mbit/s
95th percentile per-packet one-way delay: 1.134 ms
Loss rate: 0.19%
Run 4: Report of QUIC Cubic — Data Link

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

*Flow 1 ingress (mean 70.56 Mbit/s)*  
*Flow 1 egress (mean 70.55 Mbit/s)*  
*Flow 2 ingress (mean 66.76 Mbit/s)*  
*Flow 2 egress (mean 66.79 Mbit/s)*  
*Flow 3 ingress (mean 48.17 Mbit/s)*  
*Flow 3 egress (mean 48.17 Mbit/s)*
Run 5: Statistics of QUIC Cubic

Start at: 2018-08-22 21:11:33
End at: 2018-08-22 21:12:03
Local clock offset: -4.32 ms
Remote clock offset: 3.029 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.28 Mbit/s
95th percentile per-packet one-way delay: 0.803 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 72.82 Mbit/s
95th percentile per-packet one-way delay: 0.811 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 68.01 Mbit/s
95th percentile per-packet one-way delay: 0.783 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 49.09 Mbit/s
95th percentile per-packet one-way delay: 0.764 ms
Loss rate: 0.18%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-08-22 21:38:27
End at: 2018-08-22 21:38:57
Local clock offset: -2.359 ms
Remote clock offset: 2.644 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.83 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 73.10 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 50.64 Mbit/s
95th percentile per-packet one-way delay: 1.059 ms
Loss rate: 0.21%
Run 6: Report of QUIC Cubic — Data Link
Run 7: Statistics of QUIC Cubic

Start at: 2018-08-22 22:05:21
End at: 2018-08-22 22:05:51
Local clock offset: -2.388 ms
Remote clock offset: 2.848 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.32 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 70.55 Mbit/s
95th percentile per-packet one-way delay: 1.046 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 67.52 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 51.09 Mbit/s
95th percentile per-packet one-way delay: 1.038 ms
Loss rate: 0.20%
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-08-22 22:32:11
End at: 2018-08-22 22:32:41
Local clock offset: 1.243 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 134.71 Mbit/s
  95th percentile per-packet one-way delay: 0.980 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 74.64 Mbit/s
  95th percentile per-packet one-way delay: 0.986 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 64.55 Mbit/s
  95th percentile per-packet one-way delay: 0.958 ms
  Loss rate: 0.12%
-- Flow 3:
  Average throughput: 51.93 Mbit/s
  95th percentile per-packet one-way delay: 0.950 ms
  Loss rate: 0.22%
Run 8: Report of QUIC Cubic — Data Link
Run 9: Statistics of QUIC Cubic

Start at: 2018-08-22 22:59:01
End at: 2018-08-22 22:59:31
Local clock offset: 0.702 ms
Remote clock offset: -0.964 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 137.84 Mbit/s
  95th percentile per-packet one-way delay: 1.063 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 75.20 Mbit/s
  95th percentile per-packet one-way delay: 1.048 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 65.91 Mbit/s
  95th percentile per-packet one-way delay: 1.076 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 56.93 Mbit/s
  95th percentile per-packet one-way delay: 1.085 ms
  Loss rate: 0.27%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-08-22 23:25:47
End at: 2018-08-22 23:26:17
Local clock offset: 0.531 ms
Remote clock offset: -0.63 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.92 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 73.19 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 64.62 Mbit/s
95th percentile per-packet one-way delay: 1.025 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 53.74 Mbit/s
95th percentile per-packet one-way delay: 1.033 ms
Loss rate: 0.19%
Run 10: Report of QUIC Cubic — Data Link

![Graph showing throughput and packet delay over time for different flows.]
Run 1: Statistics of SCReAM

Start at: 2018-08-22 19:01:51
End at: 2018-08-22 19:02:21
Local clock offset: 0.56 ms
Remote clock offset: -1.003 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 1.174 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.177 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.176 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.158 ms
  Loss rate: 0.35%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2018-08-22 19:28:42
End at: 2018-08-22 19:29:12
Local clock offset: 0.595 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 1.485 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.485 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.480 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.494 ms
  Loss rate: 0.36%
Run 2: Report of SCReAM — Data Link
Run 3: Statistics of SCReAM

End at: 2018-08-22 19:56:08
Local clock offset: 0.95 ms
Remote clock offset: 3.839 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.225 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.229 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.222 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.222 ms
Loss rate: 0.35%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

End at: 2018-08-22 20:22:58
Local clock offset: -2.718 ms
Remote clock offset: 3.328 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 1.366 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.371 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.362 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.366 ms
  Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

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

![Graph of per-packet one-way delay for different flows.]

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

Flow 1 (95th percentile 1.37 ms)
Flow 2 (95th percentile 1.36 ms)
Flow 3 (95th percentile 1.37 ms)
Run 5: Statistics of SCReAM

Start at: 2018-08-22 20:49:23
End at: 2018-08-22 20:49:53
Local clock offset: -4.711 ms
Remote clock offset: 3.108 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.121 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.122 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.123 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.106 ms
Loss rate: 0.35%
Run 5: Report of SCReAM — Data Link

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

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

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

- Flow 1 (99th percentile 1.12 ms)
- Flow 2 (99th percentile 1.12 ms)
- Flow 3 (99th percentile 1.11 ms)
Run 6: Statistics of SCReAM

Start at: 2018-08-22 21:16:10
End at: 2018-08-22 21:16:40
Local clock offset: -3.444 ms
Remote clock offset: 2.828 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.095 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.36%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-08-22 21:43:03
End at: 2018-08-22 21:43:33
Local clock offset: -2.347 ms
Remote clock offset: 2.667 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.208 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.201 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.35%
Run 7: Report of SCReAM — Data Link

![Graph of Throughput (Mbps) vs Time (s)]

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

Legend:
- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.22 Mbps)
- Flow 2 egress (mean 0.22 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)
Run 8: Statistics of SCReAM

Start at: 2018-08-22 22:09:58
End at: 2018-08-22 22:10:28
Local clock offset: -1.519 ms
Remote clock offset: 2.836 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 0.977 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 0.989 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 0.937 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 0.906 ms
  Loss rate: 0.36%
Run 8: Report of SCReAM — Data Link

![Graph showing throughput over time for different flows.](image1)

![Graph showing round-trip delay over time for different flows.](image2)

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

Round-trip delay:

- Flow 1 (95th percentile 0.99 ms)
- Flow 2 (95th percentile 0.94 ms)
- Flow 3 (95th percentile 0.91 ms)
Run 9: Statistics of SCReAM

Start at: 2018-08-22 22:36:46
End at: 2018-08-22 22:37:16
Local clock offset: 1.411 ms
Remote clock offset: -0.554 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 1.127 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.140 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.087 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 1.102 ms
  Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

![Graph 1: Throughput (Mbps)]

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

![Graph 2: Per-packet End-to-End delay (ms)]

- **Flow 1 (95th percentile 1.14 ms)**
- **Flow 2 (95th percentile 1.09 ms)**
- **Flow 3 (95th percentile 1.10 ms)**

221
Run 10: Statistics of SCReAM

Start at: 2018-08-22 23:03:41
End at: 2018-08-22 23:04:11
Local clock offset: 0.857 ms
Remote clock offset: -0.728 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.235 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.35%
Run 10: Report of SCReAM — Data Link

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

- **Throughput (Mbps)**
  - X-axis: Time (s)
  - Y-axis: Throughput (Mbps)
  - Lines represent different flows:
    - Flow 1 ingress (mean 0.22 Mbps)
    - Flow 1 egress (mean 0.22 Mbps)
    - Flow 2 ingress (mean 0.22 Mbps)
    - Flow 2 egress (mean 0.22 Mbps)
    - Flow 3 ingress (mean 0.22 Mbps)
    - Flow 3 egress (mean 0.22 Mbps)

- **Per-packet one-way delay (ms)**
  - X-axis: Time (s)
  - Y-axis: Per-packet one-way delay (ms)
  - Data points represent different flows:
    - Flow 1 (95th percentile 1.22 ms)
    - Flow 2 (95th percentile 1.24 ms)
    - Flow 3 (95th percentile 1.24 ms)
Run 1: Statistics of Sprout

Start at: 2018-08-22 19:11:16
End at: 2018-08-22 19:11:46
Local clock offset: 0.603 ms
Remote clock offset: -0.621 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.88 Mbit/s
95th percentile per-packet one-way delay: 1.186 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 21.09 Mbit/s
95th percentile per-packet one-way delay: 1.190 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 20.83 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.19 Mbit/s
95th percentile per-packet one-way delay: 1.181 ms
Loss rate: 0.03%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-08-22 19:38:08
End at: 2018-08-22 19:38:38
Local clock offset: 0.689 ms
Remote clock offset: 2.214 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.67 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 20.95 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 20.98 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 20.57 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.08%
Run 2: Report of Sprout — Data Link

---

**Throughput (Mbit/s)**

- **Flow 1 ingress** (mean 20.96 Mbit/s)
- **Flow 1 egress** (mean 20.95 Mbit/s)
- **Flow 2 ingress** (mean 20.98 Mbit/s)
- **Flow 2 egress** (mean 20.98 Mbit/s)
- **Flow 3 ingress** (mean 20.33 Mbit/s)
- **Flow 3 egress** (mean 20.57 Mbit/s)

---

**Packet one-way delay (ms)**

- **Flow 1** (95th percentile 1.20 ms)
- **Flow 2** (95th percentile 1.21 ms)
- **Flow 3** (95th percentile 1.21 ms)

---

227
Run 3: Statistics of Sprout

Start at: 2018-08-22 20:05:07
End at: 2018-08-22 20:05:37
Local clock offset: 1.066 ms
Remote clock offset: 3.828 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 41.45 Mbit/s
  95th percentile per-packet one-way delay: 0.993 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 20.79 Mbit/s
  95th percentile per-packet one-way delay: 1.000 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 20.77 Mbit/s
  95th percentile per-packet one-way delay: 0.989 ms
  Loss rate: 0.07%
-- Flow 3:
  Average throughput: 20.94 Mbit/s
  95th percentile per-packet one-way delay: 0.965 ms
  Loss rate: 0.00%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2018-08-22 20:31:57
End at: 2018-08-22 20:32:27
Local clock offset: -3.592 ms
Remote clock offset: 3.501 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.79 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 20.91 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 21.02 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2018-08-22 20:58:47
End at: 2018-08-22 20:59:17
Local clock offset: -5.071 ms
Remote clock offset: 2.975 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.18 Mbit/s
95th percentile per-packet one-way delay: 1.212 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 21.09 Mbit/s
95th percentile per-packet one-way delay: 1.204 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 21.12 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.52 Mbit/s
95th percentile per-packet one-way delay: 1.220 ms
Loss rate: 0.41%
Run 5: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 21.08 Mbit/s)
- Flow 1 egress (mean 21.09 Mbit/s)
- Flow 2 ingress (mean 21.12 Mbit/s)
- Flow 2 egress (mean 21.12 Mbit/s)
- Flow 3 ingress (mean 21.55 Mbit/s)
- Flow 3 egress (mean 21.52 Mbit/s)
Run 6: Statistics of Sprout

Start at: 2018-08-22 21:25:34
End at: 2018-08-22 21:26:04
Local clock offset: -2.632 ms
Remote clock offset: 2.72 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.15 Mbit/s
95th percentile per-packet one-way delay: 1.049 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 21.53 Mbit/s
95th percentile per-packet one-way delay: 1.056 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 20.95 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.49 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.06%
Run 6: Report of Sprout — Data Link

![Graph of throughput over time for different flows]

![Graph of packet one-way delay over time for different flows]

Flow 1 ingress (mean 21.53 Mbit/s)  
Flow 2 ingress (mean 20.95 Mbit/s)  
Flow 3 ingress (mean 20.41 Mbit/s)  
Flow 1 egress (mean 21.53 Mbit/s)  
Flow 2 egress (mean 20.95 Mbit/s)  
Flow 3 egress (mean 20.49 Mbit/s)

Flow 1 (95th percentile 1.06 ms)  
Flow 2 (95th percentile 1.04 ms)  
Flow 3 (95th percentile 1.02 ms)
Run 7: Statistics of Sprout

Start at: 2018-08-22 21:52:29
End at: 2018-08-22 21:52:59
Local clock offset: -2.403 ms
Remote clock offset: 2.679 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.29 Mbit/s
95th percentile per-packet one-way delay: 1.161 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 1.158 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.57 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 20.95 Mbit/s
95th percentile per-packet one-way delay: 1.158 ms
Loss rate: 0.44%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Start at: 2018-08-22 22:19:25
End at: 2018-08-22 22:19:55
Local clock offset: 0.206 ms
Remote clock offset: 2.569 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.57 Mbit/s
95th percentile per-packet one-way delay: 0.875 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 20.67 Mbit/s
95th percentile per-packet one-way delay: 0.892 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.02 Mbit/s
95th percentile per-packet one-way delay: 0.816 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 0.770 ms
Loss rate: 0.00%
Run 8: Report of Sprout — Data Link
Run 9: Statistics of Sprout

Start at: 2018-08-22 22:46:08
End at: 2018-08-22 22:46:38
Local clock offset: 0.79 ms
Remote clock offset: -1.189 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.14 Mbit/s
95th percentile per-packet one-way delay: 1.003 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 1.004 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.70 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.05 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.49%
Run 9: Report of Sprout — Data Link

![Graph showing throughput and packet delay over time]

- Throughput (Mbps):
  - Flow 1 ingress: mean 21.48 Mbps
  - Flow 1 egress: mean 21.48 Mbps
  - Flow 2 ingress: mean 20.70 Mbps
  - Flow 2 egress: mean 20.70 Mbps
  - Flow 3 ingress: mean 21.10 Mbps
  - Flow 3 egress: mean 21.05 Mbps

- Packet delay (ms):
  - Flow 1 (95th percentile 1.00 ms)
  - Flow 2 (95th percentile 1.00 ms)
  - Flow 3 (95th percentile 1.00 ms)
Run 10: Statistics of Sprout

Start at: 2018-08-22 23:13:07
End at: 2018-08-22 23:13:37
Local clock offset: 0.697 ms
Remote clock offset: -0.588 ms

# Below is generated by plot.py at 2018-08-23 01:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.88 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 20.86 Mbit/s
95th percentile per-packet one-way delay: 1.188 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.14 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.26 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 0.48%
Run 10: Report of Sprout — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows with specified mean rates]
Run 1: Statistics of TaoVA-100x

Start at: 2018-08-22 19:14:09
End at: 2018-08-22 19:14:39
Local clock offset: 0.547 ms
Remote clock offset: -0.497 ms

# Below is generated by plot.py at 2018-08-23 01:38:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.75 Mbit/s
95th percentile per-packet one-way delay: 1.372 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 216.63 Mbit/s
95th percentile per-packet one-way delay: 1.302 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 189.06 Mbit/s
95th percentile per-packet one-way delay: 1.436 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 121.54 Mbit/s
95th percentile per-packet one-way delay: 1.488 ms
Loss rate: 0.18%
Run 1: Report of TaoVA-100x — Data Link

![Graph showing throughput and delay](image-url)

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 216.48 Mbps)
Flow 1 egress (mean 216.63 Mbps)
Flow 2 ingress (mean 189.02 Mbps)
Flow 2 egress (mean 189.06 Mbps)
Flow 3 ingress (mean 121.30 Mbps)
Flow 3 egress (mean 121.54 Mbps)

Delay (ms)

Time (s)

Flow 1 (95th percentile 1.30 ms)
Flow 2 (95th percentile 1.44 ms)
Flow 3 (95th percentile 1.49 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-08-22 19:40:59
End at: 2018-08-22 19:41:29
Local clock offset: 0.72 ms
Remote clock offset: 2.589 ms

# Below is generated by plot.py at 2018-08-23 01:38:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 380.64 Mbit/s
95th percentile per-packet one-way delay: 1.210 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 215.54 Mbit/s
95th percentile per-packet one-way delay: 1.185 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 194.52 Mbit/s
95th percentile per-packet one-way delay: 1.220 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 107.80 Mbit/s
95th percentile per-packet one-way delay: 1.274 ms
Loss rate: 0.25%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-08-22 20:07:58
End at: 2018-08-22 20:08:28
Local clock offset: 0.764 ms
Remote clock offset: 3.634 ms

# Below is generated by plot.py at 2018-08-23 01:38:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.90 Mbit/s
95th percentile per-packet one-way delay: 1.509 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 215.41 Mbit/s
95th percentile per-packet one-way delay: 1.418 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 193.96 Mbit/s
95th percentile per-packet one-way delay: 1.482 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 115.88 Mbit/s
95th percentile per-packet one-way delay: 2.062 ms
Loss rate: 0.15%
Run 3: Report of TaoVA-100x — Data Link

![Graph of Throughput and Delay]
Run 4: Statistics of TaoVA-100x

Start at: 2018-08-22 20:34:48
End at: 2018-08-22 20:35:18
Local clock offset: -3.78 ms
Remote clock offset: 3.63 ms

# Below is generated by plot.py at 2018-08-23 01:38:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 378.21 Mbit/s
  95th percentile per-packet one-way delay: 1.197 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 215.16 Mbit/s
  95th percentile per-packet one-way delay: 1.140 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 189.36 Mbit/s
  95th percentile per-packet one-way delay: 1.196 ms
  Loss rate: 0.03%
-- Flow 3:
  Average throughput: 111.81 Mbit/s
  95th percentile per-packet one-way delay: 1.537 ms
  Loss rate: 0.22%
Run 4: Report of TaoVA-100x — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 215.08 Mbit/s)  Flow 1 egress (mean 215.16 Mbit/s)
Flow 2 ingress (mean 189.23 Mbit/s)  Flow 2 egress (mean 189.36 Mbit/s)
Flow 3 ingress (mean 111.78 Mbit/s)  Flow 3 egress (mean 111.81 Mbit/s)

Percent one-way delay (ms)

Time (s)

Flow 1 (95th percentile 1.14 ms)  Flow 2 (95th percentile 1.20 ms)  Flow 3 (95th percentile 1.54 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-08-22 21:01:37
End at: 2018-08-22 21:02:07
Local clock offset: -5.22 ms
Remote clock offset: 3.036 ms

# Below is generated by plot.py at 2018-08-23 01:38:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 382.59 Mbit/s
  95th percentile per-packet one-way delay: 1.220 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 218.99 Mbit/s
  95th percentile per-packet one-way delay: 1.151 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 186.19 Mbit/s
  95th percentile per-packet one-way delay: 1.294 ms
  Loss rate: 0.03%
-- Flow 3:
  Average throughput: 119.80 Mbit/s
  95th percentile per-packet one-way delay: 1.382 ms
  Loss rate: 0.09%
Run 5: Report of TaoVA-100x — Data Link

**Throughput (Mbps):**
- Flow 1 ingress (mean 218.95 Mbps)
- Flow 1 egress (mean 218.99 Mbps)
- Flow 2 ingress (mean 186.03 Mbps)
- Flow 2 egress (mean 186.19 Mbps)
- Flow 3 ingress (mean 119.68 Mbps)
- Flow 3 egress (mean 119.69 Mbps)

**Per-packet one-way delay (μs):**
- Flow 1 (95th percentile 1.15 μs)
- Flow 2 (95th percentile 1.29 μs)
- Flow 3 (95th percentile 1.38 μs)
Run 6: Statistics of TaoVA-100x

Start at: 2018-08-22 21:28:27
End at: 2018-08-22 21:28:57
Local clock offset: -2.585 ms
Remote clock offset: 2.727 ms

# Below is generated by plot.py at 2018-08-23 01:38:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.39 Mbit/s
95th percentile per-packet one-way delay: 0.976 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 217.88 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 194.26 Mbit/s
95th percentile per-packet one-way delay: 0.919 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 127.28 Mbit/s
95th percentile per-packet one-way delay: 1.093 ms
Loss rate: 0.20%
Run 7: Statistics of TaoVA-100x

End at: 2018-08-22 21:55:52
Local clock offset: -2.498 ms
Remote clock offset: 2.712 ms

# Below is generated by plot.py at 2018-08-23 01:38:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 384.36 Mbit/s
  95th percentile per-packet one-way delay: 1.123 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 216.91 Mbit/s
  95th percentile per-packet one-way delay: 1.053 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 193.77 Mbit/s
  95th percentile per-packet one-way delay: 1.101 ms
  Loss rate: 0.07%
-- Flow 3:
  Average throughput: 116.14 Mbit/s
  95th percentile per-packet one-way delay: 1.614 ms
  Loss rate: 0.25%
Run 7: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 216.91 Mbps)
- Flow 1 egress (mean 216.91 Mbps)
- Flow 2 ingress (mean 193.77 Mbps)
- Flow 2 egress (mean 193.77 Mbps)
- Flow 3 ingress (mean 116.18 Mbps)
- Flow 3 egress (mean 116.14 Mbps)

Per-packet one-way delay (ms)

- Flow 1 (95th percentile 1.05 ms)
- Flow 2 (95th percentile 1.10 ms)
- Flow 3 (95th percentile 1.61 ms)
Run 8: Statistics of TaoVA-100x

Local clock offset: 0.428 ms
Remote clock offset: 1.611 ms

# Below is generated by plot.py at 2018-08-23 01:40:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.68 Mbit/s
95th percentile per-packet one-way delay: 0.881 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 222.03 Mbit/s
95th percentile per-packet one-way delay: 0.878 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 199.53 Mbit/s
95th percentile per-packet one-way delay: 0.828 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 113.97 Mbit/s
95th percentile per-packet one-way delay: 1.161 ms
Loss rate: 0.29%
Run 8: Report of TaoVA-100x — Data Link

Throughput (Mbps):

Flow 1 ingress (mean 221.95 Mbps)  Flow 1 egress (mean 222.03 Mbps)
Flow 2 ingress (mean 199.48 Mbps)  Flow 2 egress (mean 199.53 Mbps)
Flow 3 ingress (mean 114.03 Mbps)  Flow 3 egress (mean 113.97 Mbps)

Packet loss (ping):

Flow 1 (95th percentile 0.88 ms)  Flow 2 (95th percentile 0.83 ms)  Flow 3 (95th percentile 1.16 ms)
Run 9: Statistics of TaoVA-100x

Start at: 2018-08-22 22:49:01
End at: 2018-08-22 22:49:31
Local clock offset: 0.794 ms
Remote clock offset: -1.393 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 364.46 Mbit/s
   95th percentile per-packet one-way delay: 1.086 ms
   Loss rate: 0.04%
-- Flow 1:
   Average throughput: 206.37 Mbit/s
   95th percentile per-packet one-way delay: 1.081 ms
   Loss rate: 0.03%
-- Flow 2:
   Average throughput: 185.38 Mbit/s
   95th percentile per-packet one-way delay: 1.092 ms
   Loss rate: 0.06%
-- Flow 3:
   Average throughput: 104.57 Mbit/s
   95th percentile per-packet one-way delay: 1.150 ms
   Loss rate: 0.08%
Run 9: Report of TaoVA-100x — Data Link

Throughput (Mbps)

Time (s)

- Flow 1 ingress (mean 206.29 Mbps)
- Flow 1 egress (mean 206.37 Mbps)
- Flow 2 ingress (mean 185.28 Mbps)
- Flow 2 egress (mean 185.38 Mbps)
- Flow 3 ingress (mean 104.46 Mbps)
- Flow 3 egress (mean 104.57 Mbps)

Per packet one way delay (ms)

Time (s)

- Flow 1 (95th percentile 1.08 ms)
- Flow 2 (95th percentile 1.09 ms)
- Flow 3 (95th percentile 1.15 ms)
Run 10: Statistics of TaoVA-100x

Start at: 2018-08-22 23:15:56
End at: 2018-08-22 23:16:26
Local clock offset: 0.649 ms
Remote clock offset: -0.597 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 220.38 Mbit/s
  95th percentile per-packet one-way delay: 1.238 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 54.34 Mbit/s
  95th percentile per-packet one-way delay: 1.307 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 194.66 Mbit/s
  95th percentile per-packet one-way delay: 1.167 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 110.19 Mbit/s
  95th percentile per-packet one-way delay: 1.382 ms
  Loss rate: 0.08%

262
Run 10: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 54.39 Mbit/s)
- Flow 1 egress (mean 54.34 Mbit/s)
- Flow 2 ingress (mean 194.57 Mbit/s)
- Flow 2 egress (mean 194.66 Mbit/s)
- Flow 3 ingress (mean 110.05 Mbit/s)
- Flow 3 egress (mean 110.19 Mbit/s)
Run 1: Statistics of TCP Vegas

Start at: 2018-08-22 19:20:47
End at: 2018-08-22 19:21:17
Local clock offset: 0.528 ms
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 546.54 Mbit/s
  95th percentile per-packet one-way delay: 2.045 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 236.96 Mbit/s
  95th percentile per-packet one-way delay: 1.649 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 292.30 Mbit/s
  95th percentile per-packet one-way delay: 2.179 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 346.16 Mbit/s
  95th percentile per-packet one-way delay: 3.508 ms
  Loss rate: 0.20%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2018-08-22 19:47:39
End at: 2018-08-22 19:48:09
Local clock offset: 0.807 ms
Remote clock offset: 3.253 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 570.66 Mbit/s
  95th percentile per-packet one-way delay: 1.730 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 261.11 Mbit/s
  95th percentile per-packet one-way delay: 1.677 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 300.09 Mbit/s
  95th percentile per-packet one-way delay: 1.723 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 330.45 Mbit/s
  95th percentile per-packet one-way delay: 1.812 ms
  Loss rate: 0.19%
Run 2: Report of TCP Vegas — Data Link

---

**Throughput Chart:**
- **Flow 1 ingress** (mean 261.13 Mbit/s)
- **Flow 1 egress** (mean 261.11 Mbit/s)
- **Flow 2 ingress** (mean 300.07 Mbit/s)
- **Flow 2 egress** (mean 300.09 Mbit/s)
- **Flow 3 ingress** (mean 330.45 Mbit/s)
- **Flow 3 egress** (mean 330.45 Mbit/s)

**Per-packet end-to-end delay Chart:**
- **Flow 1** (95th percentile 1.68 ms)
- **Flow 2** (95th percentile 1.72 ms)
- **Flow 3** (95th percentile 1.81 ms)
Run 3: Statistics of TCP Vegas

Start at: 2018-08-22 20:14:35
End at: 2018-08-22 20:15:05
Local clock offset: -1.355 ms
Remote clock offset: 3.357 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 402.69 Mbit/s
  95th percentile per-packet one-way delay: 1.776 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 107.01 Mbit/s
  95th percentile per-packet one-way delay: 1.487 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 278.24 Mbit/s
  95th percentile per-packet one-way delay: 1.780 ms
  Loss rate: 0.12%
-- Flow 3:
  Average throughput: 332.49 Mbit/s
  95th percentile per-packet one-way delay: 1.877 ms
  Loss rate: 0.22%
Run 3: Report of TCP Vegas — Data Link

![Graph showing throughput and round-trip time over time for different flows.]

- Flow 1 ingress (mean 106.98 Mbit/s)
- Flow 1 egress (mean 107.01 Mbit/s)
- Flow 2 ingress (mean 278.36 Mbit/s)
- Flow 2 egress (mean 278.24 Mbit/s)
- Flow 3 ingress (mean 332.57 Mbit/s)
- Flow 3 egress (mean 332.49 Mbit/s)

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

- Flow 1 (95th percentile 1.49 ms)
- Flow 2 (95th percentile 1.78 ms)
- Flow 3 (95th percentile 1.88 ms)
Run 4: Statistics of TCP Vegas

Start at: 2018-08-22 20:41:27
End at: 2018-08-22 20:41:57
Local clock offset: -4.199 ms
Remote clock offset: 3.247 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.50 Mbit/s
95th percentile per-packet one-way delay: 1.614 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 104.30 Mbit/s
95th percentile per-packet one-way delay: 1.375 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 406.75 Mbit/s
95th percentile per-packet one-way delay: 1.622 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 362.56 Mbit/s
95th percentile per-packet one-way delay: 1.668 ms
Loss rate: 0.20%
Run 4: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 104.27 Mbit/s)
- Flow 1 egress (mean 104.30 Mbit/s)
- Flow 2 ingress (mean 406.71 Mbit/s)
- Flow 2 egress (mean 406.75 Mbit/s)
- Flow 3 ingress (mean 362.63 Mbit/s)
- Flow 3 egress (mean 362.56 Mbit/s)
Run 5: Statistics of TCP Vegas

Start at: 2018-08-22 21:08:13
End at: 2018-08-22 21:08:43
Local clock offset: -5.165 ms
Remote clock offset: 3.049 ms

# Below is generated by plot.py at 2018-08-23 01:45:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.12 Mbit/s
95th percentile per-packet one-way delay: 2.488 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 278.45 Mbit/s
95th percentile per-packet one-way delay: 1.741 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 141.95 Mbit/s
95th percentile per-packet one-way delay: 1.599 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 537.30 Mbit/s
95th percentile per-packet one-way delay: 3.216 ms
Loss rate: 0.18%
Run 5: Report of TCP Vegas — Data Link

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

Legend:
- Blue dotted line: Flow 1 ingress (mean 278.43 Mbit/s) and egress (mean 278.45 Mbit/s)
- Green dotted line: Flow 2 ingress (mean 141.99 Mbit/s) and egress (mean 141.95 Mbit/s)
- Red dotted line: Flow 3 ingress (mean 537.26 Mbit/s) and egress (mean 537.30 Mbit/s)
Run 6: Statistics of TCP Vegas

Start at: 2018-08-22 21:35:06
End at: 2018-08-22 21:35:36
Local clock offset: -2.294 ms
Remote clock offset: 2.656 ms

# Below is generated by plot.py at 2018-08-23 01:47:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.93 Mbit/s
95th percentile per-packet one-way delay: 1.734 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 342.15 Mbit/s
95th percentile per-packet one-way delay: 1.671 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 343.49 Mbit/s
95th percentile per-packet one-way delay: 1.726 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 226.80 Mbit/s
95th percentile per-packet one-way delay: 1.873 ms
Loss rate: 0.25%
Run 6: Report of TCP Vegas — Data Link

![Graph showing network performance metrics over time](image)

- **Throughput (Mbps)**
  - **Flow 1 ingress** (mean 342.13 Mbps)
  - **Flow 1 egress** (mean 342.15 Mbps)
  - **Flow 2 ingress** (mean 343.51 Mbps)
  - **Flow 2 egress** (mean 343.49 Mbps)
  - **Flow 3 ingress** (mean 226.90 Mbps)
  - **Flow 3 egress** (mean 226.80 Mbps)

- **Per-packet one-way delay (ms)**
  - **Flow 1** (95th percentile 1.67 ms)
  - **Flow 2** (95th percentile 1.73 ms)
  - **Flow 3** (95th percentile 1.87 ms)
Run 7: Statistics of TCP Vegas

Start at: 2018-08-22 22:02:07
End at: 2018-08-22 22:02:37
Local clock offset: -2.394 ms
Remote clock offset: 2.745 ms

# Below is generated by plot.py at 2018-08-23 01:47:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 395.33 Mbit/s
  95th percentile per-packet one-way delay: 1.554 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 75.45 Mbit/s
  95th percentile per-packet one-way delay: 1.376 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 328.77 Mbit/s
  95th percentile per-packet one-way delay: 1.507 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 304.19 Mbit/s
  95th percentile per-packet one-way delay: 1.683 ms
  Loss rate: 0.11%
Run 7: Report of TCP Vegas — Data Link
Run 8: Statistics of TCP Vegas

Start at: 2018-08-22 22:28:56
End at: 2018-08-22 22:29:26
Local clock offset: 1.029 ms
Remote clock offset: 0.277 ms

# Below is generated by plot.py at 2018-08-23 01:47:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 438.74 Mbit/s
  95th percentile per-packet one-way delay: 1.461 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 247.71 Mbit/s
  95th percentile per-packet one-way delay: 1.452 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 181.55 Mbit/s
  95th percentile per-packet one-way delay: 1.533 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 212.68 Mbit/s
  95th percentile per-packet one-way delay: 1.059 ms
  Loss rate: 0.26%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-08-22 22:55:40
End at: 2018-08-22 22:56:10
Local clock offset: 0.698 ms
Remote clock offset: -1.172 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 607.29 Mbit/s
95th percentile per-packet one-way delay: 1.561 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 334.32 Mbit/s
95th percentile per-packet one-way delay: 1.525 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 241.82 Mbit/s
95th percentile per-packet one-way delay: 1.563 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 337.66 Mbit/s
95th percentile per-packet one-way delay: 1.640 ms
Loss rate: 0.19%
Run 9: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 334.31 Mbit/s)
- Flow 1 egress (mean 334.32 Mbit/s)
- Flow 2 ingress (mean 241.71 Mbit/s)
- Flow 2 egress (mean 241.82 Mbit/s)
- Flow 3 ingress (mean 337.77 Mbit/s)
- Flow 3 egress (mean 337.66 Mbit/s)
Run 10: Statistics of TCP Vegas

Start at: 2018-08-22 23:22:30
End at: 2018-08-22 23:23:00
Local clock offset: 0.607 ms
Remote clock offset: -0.524 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.88 Mbit/s
95th percentile per-packet one-way delay: 1.494 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 162.91 Mbit/s
95th percentile per-packet one-way delay: 1.345 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 315.45 Mbit/s
95th percentile per-packet one-way delay: 1.499 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 371.40 Mbit/s
95th percentile per-packet one-way delay: 1.573 ms
Loss rate: 0.20%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-08-22 19:12:36
End at: 2018-08-22 19:13:06
Local clock offset: 0.48 ms
Remote clock offset: -0.586 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.91 Mbit/s
95th percentile per-packet one-way delay: 3.925 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 217.41 Mbit/s
95th percentile per-packet one-way delay: 4.993 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 142.09 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 111.57 Mbit/s
95th percentile per-packet one-way delay: 1.871 ms
Loss rate: 0.21%
Run 1: Report of Verus — Data Link

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

- Flow 1 ingress (mean 217.48 Mbit/s)
- Flow 1 egress (mean 217.41 Mbit/s)
- Flow 2 ingress (mean 142.05 Mbit/s)
- Flow 2 egress (mean 142.09 Mbit/s)
- Flow 3 ingress (mean 111.56 Mbit/s)
- Flow 3 egress (mean 111.57 Mbit/s)
Run 2: Statistics of Verus

Start at: 2018-08-22 19:39:28
End at: 2018-08-22 19:39:58
Local clock offset: 0.61 ms
Remote clock offset: 2.352 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 288.24 Mbit/s
95th percentile per-packet one-way delay: 3.360 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 159.80 Mbit/s
95th percentile per-packet one-way delay: 4.338 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 137.59 Mbit/s
95th percentile per-packet one-way delay: 1.722 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 111.39 Mbit/s
95th percentile per-packet one-way delay: 2.128 ms
Loss rate: 0.35%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-08-22 20:06:27
End at: 2018-08-22 20:06:57
Local clock offset: 1.084 ms
Remote clock offset: 3.707 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 290.15 Mbit/s
  95th percentile per-packet one-way delay: 4.470 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 183.70 Mbit/s
  95th percentile per-packet one-way delay: 5.335 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 113.32 Mbit/s
  95th percentile per-packet one-way delay: 2.270 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 93.59 Mbit/s
  95th percentile per-packet one-way delay: 2.242 ms
  Loss rate: 0.15%
Run 3: Report of Verus — Data Link

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

- Flow 1 ingress (mean 183.66 Mbit/s)
- Flow 1 egress (mean 183.70 Mbit/s)
- Flow 2 ingress (mean 113.33 Mbit/s)
- Flow 2 egress (mean 113.32 Mbit/s)
- Flow 3 ingress (mean 93.55 Mbit/s)
- Flow 3 egress (mean 93.59 Mbit/s)
Run 4: Statistics of Verus

Start at: 2018-08-22 20:33:17
End at: 2018-08-22 20:33:47
Local clock offset: -3.669 ms
Remote clock offset: 3.563 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.77 Mbit/s
95th percentile per-packet one-way delay: 3.475 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 167.52 Mbit/s
95th percentile per-packet one-way delay: 4.547 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 122.86 Mbit/s
95th percentile per-packet one-way delay: 2.101 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 106.99 Mbit/s
95th percentile per-packet one-way delay: 2.256 ms
Loss rate: 0.12%
Run 4: Report of Verus — Data Link

[Graph of throughput and packet delay over time for different flows, with annotations for mean throughput and 95th percentile delay.]
Run 5: Statistics of Verus

Start at: 2018-08-22 21:00:07
End at: 2018-08-22 21:00:37
Local clock offset: -5.167 ms
Remote clock offset: 3.077 ms

# Below is generated by plot.py at 2018-08-23 01:51:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.70 Mbit/s
95th percentile per-packet one-way delay: 3.742 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 145.37 Mbit/s
95th percentile per-packet one-way delay: 4.652 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 126.71 Mbit/s
95th percentile per-packet one-way delay: 1.992 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 101.55 Mbit/s
95th percentile per-packet one-way delay: 2.362 ms
Loss rate: 0.18%
Run 5: Report of Verus — Data Link

![Graph showing network performance metrics]

- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 145.37 Mbps)
  - Flow 1 Egress (mean 145.37 Mbps)
  - Flow 2 Ingress (mean 126.80 Mbps)
  - Flow 2 Egress (mean 126.71 Mbps)
  - Flow 3 Ingress (mean 101.49 Mbps)
  - Flow 3 Egress (mean 101.55 Mbps)

- **Packet one-way delay (ms):**
  - Flow 1 (95th percentile 4.65 ms)
  - Flow 2 (95th percentile 1.99 ms)
  - Flow 3 (95th percentile 2.36 ms)
Run 6: Statistics of Verus

Start at: 2018-08-22 21:26:54
End at: 2018-08-22 21:27:24
Local clock offset: -2.556 ms
Remote clock offset: 2.709 ms

# Below is generated by plot.py at 2018-08-23 01:52:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 348.48 Mbit/s
  95th percentile per-packet one-way delay: 5.013 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 212.50 Mbit/s
  95th percentile per-packet one-way delay: 6.323 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 149.98 Mbit/s
  95th percentile per-packet one-way delay: 1.762 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 109.16 Mbit/s
  95th percentile per-packet one-way delay: 1.870 ms
  Loss rate: 0.18%
Run 6: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 212.46 Mbit/s)
- Flow 1 egress (mean 212.50 Mbit/s)
- Flow 2 ingress (mean 149.90 Mbit/s)
- Flow 2 egress (mean 149.98 Mbit/s)
- Flow 3 ingress (mean 109.14 Mbit/s)
- Flow 3 egress (mean 109.16 Mbit/s)

![Graph showing packet delay distribution for different flows.]

Legend:
- Flow 1 (95th percentile 6.32 ms)
- Flow 2 (95th percentile 1.76 ms)
- Flow 3 (95th percentile 1.87 ms)
Run 7: Statistics of Verus

Start at: 2018-08-22 21:53:49
End at: 2018-08-22 21:54:19
Local clock offset: -2.493 ms
Remote clock offset: 2.697 ms

# Below is generated by plot.py at 2018-08-23 01:52:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.20 Mbit/s
95th percentile per-packet one-way delay: 2.390 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 185.86 Mbit/s
95th percentile per-packet one-way delay: 2.868 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 145.21 Mbit/s
95th percentile per-packet one-way delay: 1.685 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 117.69 Mbit/s
95th percentile per-packet one-way delay: 1.699 ms
Loss rate: 0.18%
Run 7: Report of Verus — Data Link
Run 8: Statistics of Verus

Start at: 2018-08-22 22:20:45
End at: 2018-08-22 22:21:15
Local clock offset: 0.28 ms
Remote clock offset: 2.046 ms

# Below is generated by plot.py at 2018-08-23 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.56 Mbit/s
95th percentile per-packet one-way delay: 4.431 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 214.05 Mbit/s
95th percentile per-packet one-way delay: 5.314 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 152.38 Mbit/s
95th percentile per-packet one-way delay: 1.762 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 2.110 ms
Loss rate: 0.03%
Run 8: Report of Verus — Data Link
Run 9: Statistics of Verus

Start at: 2018-08-22 22:47:28
End at: 2018-08-22 22:47:58
Local clock offset: 0.837 ms
Remote clock offset: -1.322 ms

# Below is generated by plot.py at 2018-08-23 01:53:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.04 Mbit/s
95th percentile per-packet one-way delay: 3.683 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 213.55 Mbit/s
95th percentile per-packet one-way delay: 5.021 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 142.88 Mbit/s
95th percentile per-packet one-way delay: 2.194 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 139.98 Mbit/s
95th percentile per-packet one-way delay: 1.978 ms
Loss rate: 0.27%
Run 9: Report of Verus — Data Link

![Graph](image)

- Flow 1 ingress (mean 213.47 Mbit/s)
- Flow 1 egress (mean 213.55 Mbit/s)
- Flow 2 ingress (mean 142.84 Mbit/s)
- Flow 2 egress (mean 142.88 Mbit/s)
- Flow 3 ingress (mean 140.11 Mbit/s)
- Flow 3 egress (mean 139.98 Mbit/s)

![Graph](image)

- Flow 1 (95th percentile 5.02 ms)
- Flow 2 (95th percentile 2.19 ms)
- Flow 3 (95th percentile 1.98 ms)
Run 10: Statistics of Verus

Start at: 2018-08-22 23:14:26
End at: 2018-08-22 23:14:56
Local clock offset: 0.681 ms
Remote clock offset: -0.599 ms

# Below is generated by plot.py at 2018-08-23 01:53:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 262.69 Mbit/s
  95th percentile per-packet one-way delay: 6.836 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 142.52 Mbit/s
  95th percentile per-packet one-way delay: 8.486 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 126.40 Mbit/s
  95th percentile per-packet one-way delay: 2.277 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 109.14 Mbit/s
  95th percentile per-packet one-way delay: 2.919 ms
  Loss rate: 0.40%
Run 10: Report of Verus — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress (mean 142.52 Mbps)**
- **Flow 1 egress (mean 142.52 Mbps)**
- **Flow 2 ingress (mean 126.29 Mbps)**
- **Flow 2 egress (mean 126.40 Mbps)**
- **Flow 3 ingress (mean 109.15 Mbps)**
- **Flow 3 egress (mean 109.14 Mbps)**

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

- **Flow 1 (95th percentile 8.49 ms)**
- **Flow 2 (95th percentile 2.28 ms)**
- **Flow 3 (95th percentile 2.92 ms)**
Run 1: Statistics of PCC-Vivace

Start at: 2018-08-22 19:04:59
End at: 2018-08-22 19:05:29
Local clock offset: 0.577 ms
Remote clock offset: -0.705 ms

# Below is generated by plot.py at 2018-08-23 01:54:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.07 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 223.62 Mbit/s
95th percentile per-packet one-way delay: 0.877 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 91.76 Mbit/s
95th percentile per-packet one-way delay: 0.911 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 47.06 Mbit/s
95th percentile per-packet one-way delay: 0.901 ms
Loss rate: 0.40%
Run 1: Report of PCC-Vivace — Data Link

![Throughput and Delay Graphs]

- Flow 1 ingress (mean 223.54 Mbit/s)
- Flow 1 egress (mean 223.62 Mbit/s)
- Flow 2 ingress (mean 91.70 Mbit/s)
- Flow 2 egress (mean 91.76 Mbit/s)
- Flow 3 ingress (mean 47.16 Mbit/s)
- Flow 3 egress (mean 47.06 Mbit/s)

![Delay Graphs]

- Flow 1 (95th percentile 0.88 ms)
- Flow 2 (95th percentile 0.91 ms)
- Flow 3 (95th percentile 0.90 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-22 19:31:50
End at: 2018-08-22 19:32:20
Local clock offset: 0.528 ms
Remote clock offset: 0.976 ms

# Below is generated by plot.py at 2018-08-23 01:55:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 314.97 Mbit/s
  95th percentile per-packet one-way delay: 1.101 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 210.68 Mbit/s
  95th percentile per-packet one-way delay: 1.085 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 123.33 Mbit/s
  95th percentile per-packet one-way delay: 1.111 ms
  Loss rate: 0.07%
-- Flow 3:
  Average throughput: 67.65 Mbit/s
  95th percentile per-packet one-way delay: 1.164 ms
  Loss rate: 0.36%
Run 2: Report of PCC-Vivace — Data Link

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

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

---

307
Run 3: Statistics of PCC-Vivace

Start at: 2018-08-22 19:58:47
End at: 2018-08-22 19:59:17
Local clock offset: 1.006 ms
Remote clock offset: 4.101 ms

# Below is generated by plot.py at 2018-08-23 01:55:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 309.86 Mbit/s
  95th percentile per-packet one-way delay: 1.028 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 220.99 Mbit/s
  95th percentile per-packet one-way delay: 1.030 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 106.33 Mbit/s
  95th percentile per-packet one-way delay: 1.025 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 55.30 Mbit/s
  95th percentile per-packet one-way delay: 1.018 ms
  Loss rate: 0.27%
Run 3: Report of PCC-Vivace — Data Link

![Graph showing data link performance metrics]
Run 4: Statistics of PCC-Vivace

Start at: 2018-08-22 20:25:36
End at: 2018-08-22 20:26:06
Local clock offset: -3.056 ms
Remote clock offset: 3.509 ms

# Below is generated by plot.py at 2018-08-23 01:56:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 322.51 Mbit/s
  95th percentile per-packet one-way delay: 1.103 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 215.59 Mbit/s
  95th percentile per-packet one-way delay: 1.084 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 130.17 Mbit/s
  95th percentile per-packet one-way delay: 1.116 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 61.69 Mbit/s
  95th percentile per-packet one-way delay: 1.172 ms
  Loss rate: 0.26%
Run 4: Report of PCC-Vivace — Data Link

![Graph showing throughput and per-packet one-way delay](image_url)
Run 5: Statistics of PCC-Vivace

Start at: 2018-08-22 20:52:31
End at: 2018-08-22 20:53:01
Local clock offset: -4.867 ms
Remote clock offset: 3.092 ms

# Below is generated by plot.py at 2018-08-23 01:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.86 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 199.59 Mbit/s
95th percentile per-packet one-way delay: 0.974 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 57.08 Mbit/s
95th percentile per-packet one-way delay: 0.981 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 43.52 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.28%
Run 5: Report of PCC-Vivace — Data Link
Run 6: Statistics of PCC-Vivace

Start at: 2018-08-22 21:19:17
End at: 2018-08-22 21:19:47
Local clock offset: -3.168 ms
Remote clock offset: 2.825 ms

# Below is generated by plot.py at 2018-08-23 01:56:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.06 Mbit/s
95th percentile per-packet one-way delay: 0.868 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 207.50 Mbit/s
95th percentile per-packet one-way delay: 0.869 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 64.70 Mbit/s
95th percentile per-packet one-way delay: 0.868 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 53.16 Mbit/s
95th percentile per-packet one-way delay: 0.850 ms
Loss rate: 0.28%
Run 6: Report of PCC-Vivace — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.]
Run 7: Statistics of PCC-Vivace

Start at: 2018-08-22 21:46:12
End at: 2018-08-22 21:46:42
Local clock offset: -2.378 ms
Remote clock offset: 2.739 ms

# Below is generated by plot.py at 2018-08-23 01:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.55 Mbit/s
95th percentile per-packet one-way delay: 1.031 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 195.89 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 73.01 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 67.21 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.22%
Run 7: Report of PCC-Vivace — Data Link

---

**Graph 1:**
- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 195.77 Mbps)
- Flow 1 egress (mean 195.89 Mbps)
- Flow 2 ingress (mean 72.99 Mbps)
- Flow 2 egress (mean 73.01 Mbps)
- Flow 3 ingress (mean 67.22 Mbps)
- Flow 3 egress (mean 67.21 Mbps)

**Graph 2:**
- Packet one-way delay (ms)
- Time (s)
- Flow 1 (95th percentile 1.03 ms)
- Flow 2 (95th percentile 1.03 ms)
- Flow 3 (95th percentile 1.07 ms)
Run 8: Statistics of PCC-Vivace

Start at: 2018-08-22 22:13:05
End at: 2018-08-22 22:13:35
Local clock offset: -0.895 ms
Remote clock offset: 2.881 ms

# Below is generated by plot.py at 2018-08-23 01:56:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 297.21 Mbit/s
  95th percentile per-packet one-way delay: 0.734 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 202.39 Mbit/s
  95th percentile per-packet one-way delay: 0.735 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 108.54 Mbit/s
  95th percentile per-packet one-way delay: 0.728 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 68.78 Mbit/s
  95th percentile per-packet one-way delay: 0.690 ms
  Loss rate: 0.17%
Run 8: Report of PCC-Vivace — Data Link

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

**Throughput (Mbps)**

- Flow 1 ingress (mean 202.32 Mbps)
- Flow 1 egress (mean 202.39 Mbps)
- Flow 2 ingress (mean 108.51 Mbps)
- Flow 2 egress (mean 108.54 Mbps)
- Flow 3 ingress (mean 69.77 Mbps)
- Flow 3 egress (mean 68.78 Mbps)

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

- Flow 1 (95th percentile 0.73 ms)
- Flow 2 (95th percentile 0.73 ms)
- Flow 3 (95th percentile 0.69 ms)
Run 9: Statistics of PCC-Vivace

Start at: 2018-08-22 22:39:54
End at: 2018-08-22 22:40:24
Local clock offset: 1.234 ms
Remote clock offset: -0.766 ms

# Below is generated by plot.py at 2018-08-23 01:57:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 280.94 Mbit/s
  95th percentile per-packet one-way delay: 1.077 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 180.92 Mbit/s
  95th percentile per-packet one-way delay: 1.068 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 115.05 Mbit/s
  95th percentile per-packet one-way delay: 1.087 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 71.17 Mbit/s
  95th percentile per-packet one-way delay: 1.093 ms
  Loss rate: 0.11%
Run 9: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 180.85 Mbps)
- Flow 1 egress (mean 180.92 Mbps)
- Flow 2 ingress (mean 115.06 Mbps)
- Flow 2 egress (mean 115.05 Mbps)
- Flow 3 ingress (mean 71.12 Mbps)
- Flow 3 egress (mean 71.17 Mbps)

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

- Flow 1 (95th percentile 1.07 ms)
- Flow 2 (95th percentile 1.09 ms)
- Flow 3 (95th percentile 1.09 ms)
Run 10: Statistics of PCC-Vivace

Start at: 2018-08-22 23:06:49
End at: 2018-08-22 23:07:19
Local clock offset: 0.901 ms
Remote clock offset: -0.52 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 278.14 Mbit/s
  95th percentile per-packet one-way delay: 1.022 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 195.16 Mbit/s
  95th percentile per-packet one-way delay: 1.016 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 68.06 Mbit/s
  95th percentile per-packet one-way delay: 1.015 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 114.36 Mbit/s
  95th percentile per-packet one-way delay: 1.047 ms
  Loss rate: 0.26%
Run 10: Report of PCC-Vivace — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 195.10 Mbit/s)  Flow 1 egress (mean 195.16 Mbit/s)
Flow 2 ingress (mean 68.04 Mbit/s)  Flow 2 egress (mean 68.06 Mbit/s)
Flow 3 ingress (mean 114.44 Mbit/s)  Flow 3 egress (mean 114.36 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 1.02 ms)  Flow 2 (95th percentile 1.01 ms)  Flow 3 (95th percentile 1.05 ms)

323
Run 1: Statistics of WebRTC media

Start at: 2018-08-22 19:09:58
End at: 2018-08-22 19:10:28
Local clock offset: 0.621 ms
Remote clock offset: -0.66 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 1.201 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2018-08-22 19:36:50
End at: 2018-08-22 19:37:20
Local clock offset: 0.573 ms
Remote clock offset: 2.034 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.10 Mbit/s
  95th percentile per-packet one-way delay: 1.101 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 1.085 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 1.110 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.47 Mbit/s
  95th percentile per-packet one-way delay: 1.112 ms
  Loss rate: 0.55%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2018-08-22 20:03:49
End at: 2018-08-22 20:04:19
Local clock offset: 1.043 ms
Remote clock offset: 3.939 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 1.033 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1.034 ms
Loss rate: 0.31%
Run 3: Report of WebRTC media — Data Link

![Graph showing throughput and delay for different flows]
Run 4: Statistics of WebRTC media

Start at: 2018-08-22 20:30:39
End at: 2018-08-22 20:31:09
Local clock offset: -3.502 ms
Remote clock offset: 3.563 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 1.176 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 1.174 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 1.172 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 1.193 ms
Loss rate: 0.65%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2018-08-22 20:57:29
End at: 2018-08-22 20:57:59
Local clock offset: -5.105 ms
Remote clock offset: 2.957 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 1.138 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 1.156 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.00%
Run 6: Statistics of WebRTC media

Start at: 2018-08-22 21:24:16
End at: 2018-08-22 21:24:46
Local clock offset: -2.707 ms
Remote clock offset: 2.674 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 3.18 Mbit/s
   95th percentile per-packet one-way delay: 1.106 ms
   Loss rate: 0.40%
-- Flow 1:
   Average throughput: 1.53 Mbit/s
   95th percentile per-packet one-way delay: 1.109 ms
   Loss rate: 0.00%
-- Flow 2:
   Average throughput: 1.12 Mbit/s
   95th percentile per-packet one-way delay: 1.101 ms
   Loss rate: 0.31%
-- Flow 3:
   Average throughput: 0.56 Mbit/s
   95th percentile per-packet one-way delay: 1.102 ms
   Loss rate: 1.70%
Run 6: Report of WebRTC media — Data Link

![Graph of throughput and packet round-trip time](image)

- Flow 1 ingress (mean 1.53 Mbps)
- Flow 1 egress (mean 1.53 Mbps)
- Flow 2 ingress (mean 1.12 Mbps)
- Flow 2 egress (mean 1.12 Mbps)
- Flow 3 ingress (mean 0.57 Mbps)
- Flow 3 egress (mean 0.56 Mbps)

335
Run 7: Statistics of WebRTC media

Start at: 2018-08-22 21:51:11
End at: 2018-08-22 21:51:41
Local clock offset: -2.409 ms
Remote clock offset: 2.792 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.17 Mbit/s
  95th percentile per-packet one-way delay: 1.054 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 1.047 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.11 Mbit/s
  95th percentile per-packet one-way delay: 1.064 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 0.55 Mbit/s
  95th percentile per-packet one-way delay: 1.048 ms
  Loss rate: 0.28%
Run 8: Statistics of WebRTC media

Start at: 2018-08-22 22:18:07
End at: 2018-08-22 22:18:37
Local clock offset: -0.045 ms
Remote clock offset: 2.889 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.13 Mbit/s
  95th percentile per-packet one-way delay: 0.869 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 1.55 Mbit/s
  95th percentile per-packet one-way delay: 0.878 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 0.856 ms
  Loss rate: 0.03%
-- Flow 3:
  Average throughput: 0.47 Mbit/s
  95th percentile per-packet one-way delay: 0.855 ms
  Loss rate: 0.00%
Run 8: Report of WebRTC media — Data Link

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

![Graph 2: Pre-packet one-way delay (ms)](image2)
Run 9: Statistics of WebRTC media

Start at: 2018-08-22 22:44:49
End at: 2018-08-22 22:45:19
Local clock offset: 0.927 ms
Remote clock offset: -1.174 ms

# Below is generated by plot.py at 2018-08-23 01:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 1.161 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 1.157 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 1.166 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.01%
Run 9: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 1.52 Mbit/s)
- Flow 1 egress (mean 1.53 Mbit/s)
- Flow 2 ingress (mean 1.14 Mbit/s)
- Flow 2 egress (mean 1.14 Mbit/s)
- Flow 3 ingress (mean 0.47 Mbit/s)
- Flow 3 egress (mean 0.47 Mbit/s)
Run 10: Statistics of WebRTC media

Start at: 2018-08-22 23:11:49  
End at: 2018-08-22 23:12:19  
Local clock offset: 0.738 ms  
Remote clock offset: -0.532 ms  

# Below is generated by plot.py at 2018-08-23 01:57:03  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 3.14 Mbit/s  
  95th percentile per-packet one-way delay: 1.144 ms  
  Loss rate: 0.00%  
-- Flow 1:  
  Average throughput: 1.52 Mbit/s  
  95th percentile per-packet one-way delay: 1.141 ms  
  Loss rate: 0.00%  
-- Flow 2:  
  Average throughput: 1.16 Mbit/s  
  95th percentile per-packet one-way delay: 1.138 ms  
  Loss rate: 0.00%  
-- Flow 3:  
  Average throughput: 0.48 Mbit/s  
  95th percentile per-packet one-way delay: 1.168 ms  
  Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link