Pantheon Report

Generated at 2018-07-27 02:10:51 (UTC).
Data path: GCE Sydney Ethernet (local) → GCE Tokyo Ethernet (remote).
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.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbde588562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3c
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afca958fa0d6d6b6230911a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08f92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cf2f42
third_party/scream-reproduce @ f099118d1421aa3131bf1ff1964974e1da3db2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46a18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af26295625939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dd4735770d143a1fa2851
test from GCE Sydney to GCE Tokyo, 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</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>203.97</td>
<td>199.70</td>
<td>189.71</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>144.96</td>
<td>89.50</td>
<td>76.24</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>170.30</td>
<td>154.93</td>
<td>65.97</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>725.01</td>
<td>616.36</td>
<td>592.83</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>697.54</td>
<td>641.53</td>
<td>526.48</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>207.07</td>
<td>193.30</td>
<td>154.63</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>31.73</td>
<td>21.14</td>
<td>10.56</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>501.02</td>
<td>45.32</td>
<td>26.97</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>272.27</td>
<td>193.59</td>
<td>62.99</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>29.72</td>
<td>59.12</td>
<td>39.89</td>
</tr>
<tr>
<td>SCReAM</td>
<td>10</td>
<td>0.21</td>
<td>0.21</td>
<td>0.22</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>6.30</td>
<td>6.25</td>
<td>5.39</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>88.73</td>
<td>77.67</td>
<td>116.85</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>89.83</td>
<td>61.30</td>
<td>94.46</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>212.59</td>
<td>173.18</td>
<td>110.80</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>316.17</td>
<td>259.22</td>
<td>102.76</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>2.10</td>
<td>1.34</td>
<td>0.55</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-07-26 18:25:49
End at: 2018-07-26 18:26:19
Local clock offset: -0.081 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-07-26 22:52:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 393.83 Mbit/s
95th percentile per-packet one-way delay: 80.998 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 203.24 Mbit/s
95th percentile per-packet one-way delay: 78.197 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 194.14 Mbit/s
95th percentile per-packet one-way delay: 81.279 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 183.83 Mbit/s
95th percentile per-packet one-way delay: 84.564 ms
Loss rate: 0.33%
Run 1: Report of TCP BBR — Data Link

![Graph of Throughput (Mb/s) vs Time (s) for different flows with mean values.]

![Graph of Per packet one way delay (ms) vs Time (s) for different flows showing 95th percentile delay values.]

Flow 1 ingress (mean 203.37 Mb/s), Flow 1 egress (mean 203.24 Mb/s), Flow 2 ingress (mean 194.31 Mb/s), Flow 2 egress (mean 194.14 Mb/s), Flow 3 ingress (mean 194.46 Mb/s), Flow 3 egress (mean 183.83 Mb/s)

Flow 1 (95th percentile 78.20 ms), Flow 2 (95th percentile 81.28 ms), Flow 3 (95th percentile 84.56 ms)
Run 2: Statistics of TCP BBR

Start at: 2018-07-26 18:50:32
End at: 2018-07-26 18:51:02
Local clock offset: -0.243 ms
Remote clock offset: -0.262 ms

# Below is generated by plot.py at 2018-07-26 22:52:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.18 Mbit/s
95th percentile per-packet one-way delay: 74.674 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 202.25 Mbit/s
95th percentile per-packet one-way delay: 73.320 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 200.64 Mbit/s
95th percentile per-packet one-way delay: 74.199 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 193.37 Mbit/s
95th percentile per-packet one-way delay: 76.836 ms
Loss rate: 0.10%
Run 2: Report of TCP BBR — Data Link

Figure 1: Throughput (Mbps) over time for flows 1, 2, and 3. The throughput is shown as a function of time (s) with peak values of approximately 200 Mbps. The lines indicate different flows: Flow 1 (solid blue), Flow 2 (dashed green), and Flow 3 (dotted red).

Figure 2: Per-packet one-way delay (ms) over time for flows 1, 2, and 3. The delay is shown as a function of time (s) with peak values of approximately 85 ms. The lines indicate different flows: Flow 1 (95th percentile 73.32 ms), Flow 2 (95th percentile 74.20 ms), and Flow 3 (95th percentile 76.84 ms).
Run 3: Statistics of TCP BBR

Start at: 2018-07-26 19:15:40
End at: 2018-07-26 19:16:10
Local clock offset: -0.149 ms
Remote clock offset: 0.09 ms

# Below is generated by plot.py at 2018-07-26 22:52:29
# Datalink statistics
-- Total of 3 flows:
95th percentile per-packet one-way delay: 70.962 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 213.06 Mbit/s
95th percentile per-packet one-way delay: 69.602 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 202.06 Mbit/s
95th percentile per-packet one-way delay: 71.296 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 203.72 Mbit/s
95th percentile per-packet one-way delay: 72.349 ms
Loss rate: 0.00%
Run 3: Report of TCP BBR — Data Link

[Graph showing throughput and packet delay over time for different flows, with annotations for each flow's mean throughput and 95th percentile delay.]
Run 4: Statistics of TCP BBR

Start at: 2018-07-26 19:40:26
End at: 2018-07-26 19:40:56
Local clock offset: -0.074 ms
Remote clock offset: -1.213 ms

# Below is generated by plot.py at 2018-07-26 22:52:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 391.04 Mbit/s
  95th percentile per-packet one-way delay: 76.560 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 198.72 Mbit/s
  95th percentile per-packet one-way delay: 75.018 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 198.38 Mbit/s
  95th percentile per-packet one-way delay: 76.109 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 181.28 Mbit/s
  95th percentile per-packet one-way delay: 79.498 ms
  Loss rate: 0.41%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2018-07-26 20:04:43
End at: 2018-07-26 20:05:13
Local clock offset: -0.064 ms
Remote clock offset: 0.145 ms

# Below is generated by plot.py at 2018-07-26 22:52:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 402.96 Mbit/s
  95th percentile per-packet one-way delay: 78.466 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 208.45 Mbit/s
  95th percentile per-packet one-way delay: 76.647 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 196.00 Mbit/s
  95th percentile per-packet one-way delay: 78.680 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 192.80 Mbit/s
  95th percentile per-packet one-way delay: 80.621 ms
  Loss rate: 0.49%
Run 5: Report of TCP BBR — Data Link

![Graph of Throughput and Per-packet-one-way-delay](image)

- **Flow 1** ingress (mean 208.59 Mbit/s), egress (mean 208.45 Mbit/s)
- **Flow 2** ingress (mean 196.15 Mbit/s), egress (mean 196.00 Mbit/s)
- **Flow 3** ingress (mean 193.81 Mbit/s), egress (mean 192.89 Mbit/s)

![Graph of Time (s) vs Throughput (Mbit/s)](image)

- **Flow 1** (95th percentile 76.65 ms)
- **Flow 2** (95th percentile 78.68 ms)
- **Flow 3** (95th percentile 80.62 ms)
Run 6: Statistics of TCP BBR

Start at: 2018-07-26 20:29:24
End at: 2018-07-26 20:29:54
Local clock offset: 0.074 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-07-26 22:52:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.50 Mbit/s
95th percentile per-packet one-way delay: 74.228 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 207.46 Mbit/s
95th percentile per-packet one-way delay: 73.417 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 207.26 Mbit/s
95th percentile per-packet one-way delay: 74.206 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 195.51 Mbit/s
95th percentile per-packet one-way delay: 75.204 ms
Loss rate: 0.25%
Run 6: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 207.51 Mbit/s)
- Flow 1 egress (mean 207.46 Mbit/s)
- Flow 2 ingress (mean 207.28 Mbit/s)
- Flow 2 egress (mean 207.26 Mbit/s)
- Flow 3 ingress (mean 196.28 Mbit/s)
- Flow 3 egress (mean 195.51 Mbit/s)
Run 7: Statistics of TCP BBR

Start at: 2018-07-26 20:54:19
End at: 2018-07-26 20:54:49
Local clock offset: 0.027 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-07-26 22:52:30
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 400.75 Mbit/s
  95th percentile per-packet one-way delay: 78.300 ms
  Loss rate: 0.08%
-- Flow 1:
 Average throughput: 201.23 Mbit/s
  95th percentile per-packet one-way delay: 76.852 ms
  Loss rate: 0.05%
-- Flow 2:
 Average throughput: 208.97 Mbit/s
  95th percentile per-packet one-way delay: 79.475 ms
  Loss rate: 0.00%
-- Flow 3:
 Average throughput: 181.73 Mbit/s
  95th percentile per-packet one-way delay: 77.544 ms
  Loss rate: 0.41%
Run 7: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 201.31 Mbit/s)
- Flow 1 egress (mean 201.23 Mbit/s)
- Flow 2 ingress (mean 209.20 Mbit/s)
- Flow 2 egress (mean 208.97 Mbit/s)
- Flow 3 ingress (mean 182.43 Mbit/s)
- Flow 3 egress (mean 181.73 Mbit/s)
Run 8: Statistics of TCP BBR

Start at: 2018-07-26 21:19:08
End at: 2018-07-26 21:19:38
Local clock offset: -0.158 ms
Remote clock offset: -1.122 ms

# Below is generated by plot.py at 2018-07-26 22:52:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.11 Mbit/s
95th percentile per-packet one-way delay: 80.559 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 208.85 Mbit/s
95th percentile per-packet one-way delay: 79.061 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 200.52 Mbit/s
95th percentile per-packet one-way delay: 80.925 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 188.86 Mbit/s
95th percentile per-packet one-way delay: 82.230 ms
Loss rate: 0.11%
Run 8: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 209.00 Mbit/s)
- Flow 1 egress (mean 208.85 Mbit/s)
- Flow 2 ingress (mean 200.65 Mbit/s)
- Flow 2 egress (mean 200.52 Mbit/s)
- Flow 3 ingress (mean 189.00 Mbit/s)
- Flow 3 egress (mean 188.86 Mbit/s)
Run 9: Statistics of TCP BBR

Start at: 2018-07-26 21:44:04
End at: 2018-07-26 21:44:34
Local clock offset: -0.067 ms
Remote clock offset: 1.187 ms

# Below is generated by plot.py at 2018-07-26 23:00:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 398.00 Mbit/s
  95th percentile per-packet one-way delay: 81.724 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 203.80 Mbit/s
  95th percentile per-packet one-way delay: 79.980 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 198.66 Mbit/s
  95th percentile per-packet one-way delay: 81.800 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 186.25 Mbit/s
  95th percentile per-packet one-way delay: 83.795 ms
  Loss rate: 0.18%
Run 9: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 203.94 Mbit/s)
- Flow 1 egress (mean 203.80 Mbit/s)
- Flow 2 ingress (mean 198.82 Mbit/s)
- Flow 2 egress (mean 198.66 Mbit/s)
- Flow 3 ingress (mean 196.41 Mbit/s)
- Flow 3 egress (mean 196.25 Mbit/s)

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

- Flow 1 (95th percentile 79.98 ms)
- Flow 2 (95th percentile 81.80 ms)
- Flow 3 (95th percentile 83.80 ms)
Run 10: Statistics of TCP BBR

Start at: 2018-07-26 22:08:59
End at: 2018-07-26 22:09:29
Local clock offset: 0.081 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2018-07-26 23:00:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.52 Mbit/s
95th percentile per-packet one-way delay: 78.130 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 192.60 Mbit/s
95th percentile per-packet one-way delay: 76.546 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 190.40 Mbit/s
95th percentile per-packet one-way delay: 78.539 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 189.72 Mbit/s
95th percentile per-packet one-way delay: 79.729 ms
Loss rate: 0.00%
Run 10: Report of TCP BBR — Data Link

![Throughput Graph](image)

![Delay Graph](image)

---

23
Run 1: Statistics of Copa

Start at: 2018-07-26 18:23:17
End at: 2018-07-26 18:23:47
Local clock offset: -0.016 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2018-07-26 23:00:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 181.74 Mbit/s
  95th percentile per-packet one-way delay: 60.067 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 119.62 Mbit/s
  95th percentile per-packet one-way delay: 58.161 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 44.76 Mbit/s
  95th percentile per-packet one-way delay: 53.750 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 100.26 Mbit/s
  95th percentile per-packet one-way delay: 70.738 ms
  Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-07-26 18:47:56
End at: 2018-07-26 18:48:26
Local clock offset: -0.091 ms
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2018-07-26 23:00:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.76 Mbit/s
95th percentile per-packet one-way delay: 55.441 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 146.74 Mbit/s
95th percentile per-packet one-way delay: 56.328 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 81.56 Mbit/s
95th percentile per-packet one-way delay: 54.510 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 53.649 ms
Loss rate: 0.03%
Run 2: Report of Copa — Data Link

![Graph showing network throughput and packet delay](attachment:image1.jpg)
Run 3: Statistics of Copa

Local clock offset: -0.167 ms
Remote clock offset: 0.149 ms

# Below is generated by plot.py at 2018-07-26 23:00:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.75 Mbit/s
95th percentile per-packet one-way delay: 56.231 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 98.66 Mbit/s
95th percentile per-packet one-way delay: 57.515 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 94.28 Mbit/s
95th percentile per-packet one-way delay: 55.734 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 55.07 Mbit/s
95th percentile per-packet one-way delay: 53.801 ms
Loss rate: 0.02%
Run 3: Report of Copa — Data Link

![Diagram showing network throughput and packet delay across different flows over time. The graphs depict multiple flows with distinct lines and markers indicating mean throughput rates and packet delay values.]
Run 4: Statistics of Copa

Start at: 2018-07-26 19:37:47
End at: 2018-07-26 19:38:17
Local clock offset: -0.122 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2018-07-26 23:02:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.32 Mbit/s
95th percentile per-packet one-way delay: 56.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.46 Mbit/s
95th percentile per-packet one-way delay: 56.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 139.84 Mbit/s
95th percentile per-packet one-way delay: 58.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 77.77 Mbit/s
95th percentile per-packet one-way delay: 55.911 ms
Loss rate: 0.00%
Run 4: Report of Copa — Data Link

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

- Flow 1 ingress (mean 142.47 Mbit/s)
- Flow 1 egress (mean 142.46 Mbit/s)
- Flow 2 ingress (mean 139.86 Mbit/s)
- Flow 2 egress (mean 139.84 Mbit/s)
- Flow 3 ingress (mean 77.79 Mbit/s)
- Flow 3 egress (mean 77.77 Mbit/s)
Run 5: Statistics of Copa

Start at: 2018-07-26 20:02:11
End at: 2018-07-26 20:02:41
Local clock offset: -0.093 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-07-26 23:02:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.07 Mbit/s
95th percentile per-packet one-way delay: 55.319 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.65 Mbit/s
95th percentile per-packet one-way delay: 53.891 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 94.92 Mbit/s
95th percentile per-packet one-way delay: 57.673 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.52 Mbit/s
95th percentile per-packet one-way delay: 53.269 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

Start at: 2018-07-26 20:26:42
End at: 2018-07-26 20:27:12
Local clock offset: 0.095 ms
Remote clock offset: 0.151 ms

# Below is generated by plot.py at 2018-07-26 23:03:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.43 Mbit/s
95th percentile per-packet one-way delay: 61.128 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 176.52 Mbit/s
95th percentile per-packet one-way delay: 62.427 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 130.87 Mbit/s
95th percentile per-packet one-way delay: 59.789 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 87.07 Mbit/s
95th percentile per-packet one-way delay: 55.625 ms
Loss rate: 0.07%
Run 6: Report of Copa — Data Link

**Throughput (Mbps)**

- Flow 1 ingress (mean 176.35 Mbps)
- Flow 1 egress (mean 176.52 Mbps)
- Flow 2 ingress (mean 130.87 Mbps)
- Flow 2 egress (mean 130.87 Mbps)
- Flow 3 ingress (mean 87.70 Mbps)
- Flow 3 egress (mean 87.07 Mbps)

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

- Flow 1 (95th percentile 62.43 ms)
- Flow 2 (95th percentile 59.79 ms)
- Flow 3 (95th percentile 55.62 ms)
Run 7: Statistics of Copa

Start at: 2018-07-26 20:51:43
End at: 2018-07-26 20:52:13
Local clock offset: 0.053 ms
Remote clock offset: -0.155 ms

# Below is generated by plot.py at 2018-07-26 23:06:53
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 217.69 Mbit/s
   95th percentile per-packet one-way delay: 58.458 ms
   Loss rate: 0.05%  
-- Flow 1:
   Average throughput: 138.75 Mbit/s
   95th percentile per-packet one-way delay: 57.603 ms
   Loss rate: 0.00%  
-- Flow 2:
   Average throughput: 72.19 Mbit/s
   95th percentile per-packet one-way delay: 58.831 ms
   Loss rate: 0.22%  
-- Flow 3:
   Average throughput: 93.14 Mbit/s
   95th percentile per-packet one-way delay: 60.683 ms
   Loss rate: 0.00%
Run 7: Report of Copa — Data Link

---

Throughput (Mbps)

- **Flow 1 ingress (mean 138.77 Mbps)**
- **Flow 1 egress (mean 138.75 Mbps)**
- **Flow 2 ingress (mean 72.35 Mbps)**
- **Flow 2 egress (mean 72.19 Mbps)**
- **Flow 3 ingress (mean 93.14 Mbps)**
- **Flow 3 egress (mean 93.14 Mbps)**

---

Per packet one way delay (ms)

- **Flow 1 (95th percentile 57.60 ms)**
- **Flow 2 (95th percentile 58.83 ms)**
- **Flow 3 (95th percentile 66.68 ms)**

---

37
Run 8: Statistics of Copa

Start at: 2018-07-26 21:16:30
End at: 2018-07-26 21:17:00
Local clock offset: -0.019 ms
Remote clock offset: -0.236 ms

# Below is generated by plot.py at 2018-07-26 23:09:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.16 Mbit/s
95th percentile per-packet one-way delay: 59.872 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 168.11 Mbit/s
95th percentile per-packet one-way delay: 60.823 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 97.86 Mbit/s
95th percentile per-packet one-way delay: 56.277 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 56.840 ms
Loss rate: 0.06%
Run 8: Report of Copa — Data Link
Run 9: Statistics of Copa

End at: 2018-07-26 21:41:52
Local clock offset: -0.161 ms
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.55 Mbit/s
95th percentile per-packet one-way delay: 63.259 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 258.83 Mbit/s
95th percentile per-packet one-way delay: 63.312 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 75.99 Mbit/s
95th percentile per-packet one-way delay: 53.820 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 95.832 ms
Loss rate: 0.02%
Run 9: Report of Copa — Data Link

---

![Graph 1](image1.png)

*Legend for Graph 1:*
- Flow 1 ingress (mean 258.83 Mbit/s)
- Flow 1 egress (mean 258.83 Mbit/s)
- Flow 2 ingress (mean 76.04 Mbit/s)
- Flow 2 egress (mean 75.99 Mbit/s)
- Flow 3 ingress (mean 69.91 Mbit/s)
- Flow 3 egress (mean 68.62 Mbit/s)

---

![Graph 2](image2.png)

*Legend for Graph 2:*
- Flow 1 (95th percentile 63.31 ms)
- Flow 2 (95th percentile 53.82 ms)
- Flow 3 (95th percentile 95.83 ms)

---

41
Run 10: Statistics of Copa

Start at: 2018-07-26 22:06:28
End at: 2018-07-26 22:06:58
Local clock offset: -0.043 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.85 Mbit/s
95th percentile per-packet one-way delay: 63.892 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 106.23 Mbit/s
95th percentile per-packet one-way delay: 57.454 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 62.71 Mbit/s
95th percentile per-packet one-way delay: 70.198 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 71.75 Mbit/s
95th percentile per-packet one-way delay: 75.314 ms
Loss rate: 0.02%
Run 10: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 106.24 Mbit/s)
- Flow 1 egress (mean 106.23 Mbit/s)
- Flow 2 ingress (mean 62.72 Mbit/s)
- Flow 2 egress (mean 62.71 Mbit/s)
- Flow 3 ingress (mean 71.76 Mbit/s)
- Flow 3 egress (mean 71.75 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 57.45 ms)
- Flow 2 (95th percentile 70.20 ms)
- Flow 3 (95th percentile 75.31 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-07-26 18:37:11
End at: 2018-07-26 18:37:41
Local clock offset: -0.154 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 301.36 Mbit/s
  95th percentile per-packet one-way delay: 60.953 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 159.52 Mbit/s
  95th percentile per-packet one-way delay: 58.491 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 210.64 Mbit/s
  95th percentile per-packet one-way delay: 61.789 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 5.33 Mbit/s
  95th percentile per-packet one-way delay: 58.974 ms
  Loss rate: 0.02%
Run 1: Report of TCP Cubic — Data Link

The diagrams show the throughput and per-packet one-way delay for three different flows: Flow 1, Flow 2, and Flow 3. The throughput is measured in Mbps and the per-packet one-way delay is measured in ms. The graphs demonstrate the performance and behavior of these flows over time.
Run 2: Statistics of TCP Cubic

Start at: 2018-07-26 19:02:03
End at: 2018-07-26 19:02:33
Local clock offset: -0.155 ms
Remote clock offset: -0.174 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.19 Mbit/s
95th percentile per-packet one-way delay: 60.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 216.21 Mbit/s
95th percentile per-packet one-way delay: 61.000 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 118.22 Mbit/s
95th percentile per-packet one-way delay: 59.712 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 109.19 Mbit/s
95th percentile per-packet one-way delay: 59.672 ms
Loss rate: 0.00%
Run 2: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 216.20 Mbit/s)**
- **Flow 1 egress (mean 216.21 Mbit/s)**
- **Flow 2 ingress (mean 118.22 Mbit/s)**
- **Flow 2 egress (mean 118.22 Mbit/s)**
- **Flow 3 ingress (mean 109.16 Mbit/s)**
- **Flow 3 egress (mean 109.19 Mbit/s)**

![Graph showing per-packet one-way delay.]

- **Flow 1 (95th percentile 61.00 ms)**
- **Flow 2 (95th percentile 59.71 ms)**
- **Flow 3 (95th percentile 59.67 ms)**
Run 3: Statistics of TCP Cubic

Start at: 2018-07-26 19:27:05
End at: 2018-07-26 19:27:35
Local clock offset: -0.255 ms
Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.79 Mbit/s
95th percentile per-packet one-way delay: 60.739 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 161.96 Mbit/s
95th percentile per-packet one-way delay: 60.530 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 117.41 Mbit/s
95th percentile per-packet one-way delay: 60.959 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 59.039 ms
Loss rate: 2.04%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2018-07-26 19:51:41
End at: 2018-07-26 19:52:11
Local clock offset: 0.012 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2018-07-26 23:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.81 Mbit/s
95th percentile per-packet one-way delay: 60.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 168.01 Mbit/s
95th percentile per-packet one-way delay: 59.897 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 112.54 Mbit/s
95th percentile per-packet one-way delay: 59.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.07 Mbit/s
95th percentile per-packet one-way delay: 61.998 ms
Loss rate: 0.00%
Run 4: Report of TCP Cubic — Data Link

![Graph showing network performance metrics]
Run 5: Statistics of TCP Cubic

Start at: 2018-07-26 20:16:12
End at: 2018-07-26 20:16:42
Local clock offset: -0.08 ms
Remote clock offset: 1.404 ms

# Below is generated by plot.py at 2018-07-26 23:10:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 207.51 Mbit/s
95th percentile per-packet one-way delay: 57.993 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 171.52 Mbit/s
95th percentile per-packet one-way delay: 58.270 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 55.105 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 57.468 ms
Loss rate: 0.09%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-07-26 20:40:55
End at: 2018-07-26 20:41:25
Local clock offset: 0.003 ms
Remote clock offset: 0.186 ms

# Below is generated by plot.py at 2018-07-26 23:12:09
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 264.27 Mbit/s
   95th percentile per-packet one-way delay: 58.304 ms
   Loss rate: 0.06%
-- Flow 1:
   Average throughput: 167.45 Mbit/s
   95th percentile per-packet one-way delay: 57.604 ms
   Loss rate: 0.01%
-- Flow 2:
   Average throughput: 142.77 Mbit/s
   95th percentile per-packet one-way delay: 58.916 ms
   Loss rate: 0.17%
-- Flow 3:
   Average throughput: 5.21 Mbit/s
   95th percentile per-packet one-way delay: 57.286 ms
   Loss rate: 0.07%
Run 6: Report of TCP Cubic — Data Link

![Throughput Graph](#)

![Delay Graph](#)

- Flow 1 ingress (mean 167.52 Mbit/s)
- Flow 1 egress (mean 167.45 Mbit/s)
- Flow 2 ingress (mean 143.01 Mbit/s)
- Flow 2 egress (mean 142.77 Mbit/s)
- Flow 3 ingress (mean 5.22 Mbit/s)
- Flow 3 egress (mean 5.21 Mbit/s)

- Flow 1 (95th percentile 57.60 ms)
- Flow 2 (95th percentile 58.92 ms)
- Flow 3 (95th percentile 57.29 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-07-26 21:05:48
End at: 2018-07-26 21:06:18
Local clock offset: 0.099 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-07-26 23:13:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.55 Mbit/s
95th percentile per-packet one-way delay: 61.310 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 173.27 Mbit/s
95th percentile per-packet one-way delay: 58.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 222.17 Mbit/s
95th percentile per-packet one-way delay: 62.286 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 59.510 ms
Loss rate: 0.28%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-07-26 21:30:29
End at: 2018-07-26 21:30:59
Local clock offset: -0.089 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2018-07-26 23:14:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.85 Mbit/s
95th percentile per-packet one-way delay: 73.941 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 153.01 Mbit/s
95th percentile per-packet one-way delay: 70.071 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 210.60 Mbit/s
95th percentile per-packet one-way delay: 74.572 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 191.30 Mbit/s
95th percentile per-packet one-way delay: 76.298 ms
Loss rate: 0.05%
Run 8: Report of TCP Cubic — Data Link

![Graph of throughput and packet delay over time for different flows with mean rates and 95th percentile delays.]
Run 9: Statistics of TCP Cubic

End at: 2018-07-26 21:56:03
Local clock offset: -0.036 ms
Remote clock offset: 0.129 ms

# Below is generated by plot.py at 2018-07-26 23:14:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.57 Mbit/s
95th percentile per-packet one-way delay: 61.322 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 186.89 Mbit/s
95th percentile per-packet one-way delay: 60.736 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 202.63 Mbit/s
95th percentile per-packet one-way delay: 61.656 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 60.854 ms
Loss rate: 0.12%
Run 9: Report of TCP Cubic — Data Link
Run 10: Statistics of TCP Cubic

Start at: 2018-07-26 22:20:26
End at: 2018-07-26 22:20:56
Local clock offset: -0.061 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-26 23:15:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 319.66 Mbit/s
  95th percentile per-packet one-way delay: 61.891 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 145.13 Mbit/s
  95th percentile per-packet one-way delay: 61.496 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 161.03 Mbit/s
  95th percentile per-packet one-way delay: 60.778 ms
  Loss rate: 0.21%
-- Flow 3:
  Average throughput: 202.49 Mbit/s
  95th percentile per-packet one-way delay: 63.317 ms
  Loss rate: 0.25%
Run 10: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 145.11 Mbit/s)
- Flow 1 egress (mean 145.13 Mbit/s)
- Flow 2 ingress (mean 161.34 Mbit/s)
- Flow 2 egress (mean 161.03 Mbit/s)
- Flow 3 ingress (mean 203.20 Mbit/s)
- Flow 3 egress (mean 202.49 Mbit/s)

[Graph showing packet delay over time for different flows]

- Flow 1 (95th percentile 61.50 ms)
- Flow 2 (95th percentile 60.78 ms)
- Flow 3 (95th percentile 63.32 ms)
Run 1: Statistics of FillP

Start at: 2018-07-26 18:34:00
End at: 2018-07-26 18:34:30
Local clock offset: -0.161 ms
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2018-07-26 23:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1359.03 Mbit/s
95th percentile per-packet one-way delay: 153.081 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 661.60 Mbit/s
95th percentile per-packet one-way delay: 166.765 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 728.30 Mbit/s
95th percentile per-packet one-way delay: 142.353 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 637.29 Mbit/s
95th percentile per-packet one-way delay: 121.855 ms
Loss rate: 0.09%
Run 1: Report of FillP — Data Link

![Graph showing network performance metrics over time]

**Throughput (Mbps)**
- Flow 1 Ingress (mean 679.13 Mbps)
- Flow 1 Egress (mean 661.60 Mbps)
- Flow 2 Ingress (mean 730.99 Mbps)
- Flow 2 Egress (mean 728.30 Mbps)
- Flow 3 Ingress (mean 637.75 Mbps)
- Flow 3 Egress (mean 637.29 Mbps)

**Packet Delay (ms)**
- Flow 1 (95th percentile 166.76 ms)
- Flow 2 (95th percentile 142.35 ms)
- Flow 3 (95th percentile 121.86 ms)
Run 2: Statistics of FillP

Start at: 2018-07-26 18:58:44
End at: 2018-07-26 18:59:14
Local clock offset: -0.043 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2018-07-26 23:47:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1435.69 Mbit/s
95th percentile per-packet one-way delay: 211.357 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 762.39 Mbit/s
95th percentile per-packet one-way delay: 217.359 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 681.30 Mbit/s
95th percentile per-packet one-way delay: 191.704 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 663.16 Mbit/s
95th percentile per-packet one-way delay: 73.808 ms
Loss rate: 0.02%
Run 2: Report of FillP — Data Link

![Graph showing data link throughput and per-packet one-way delay over time for Flow 1, 2, and 3.](image-url)
Run 3: Statistics of FillP

End at: 2018-07-26 19:24:16
Local clock offset: -0.097 ms
Remote clock offset: -1.417 ms

# Below is generated by plot.py at 2018-07-26 23:47:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1425.51 Mbit/s
95th percentile per-packet one-way delay: 175.223 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 738.17 Mbit/s
95th percentile per-packet one-way delay: 177.830 ms
Loss rate: 2.52%
-- Flow 2:
Average throughput: 719.99 Mbit/s
95th percentile per-packet one-way delay: 154.426 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 626.85 Mbit/s
95th percentile per-packet one-way delay: 127.495 ms
Loss rate: 0.66%
Run 3: Report of FillP — Data Link

![Throughput Graph](chart1.png)

- **Flow 1 Ingress** (mean 757.33 Mbit/s)
- **Flow 1 Egress** (mean 736.17 Mbit/s)
- **Flow 2 Ingress** (mean 734.37 Mbit/s)
- **Flow 2 Egress** (mean 719.99 Mbit/s)
- **Flow 3 Ingress** (mean 631.04 Mbit/s)
- **Flow 3 Egress** (mean 626.85 Mbit/s)

![Delay Graph](chart2.png)

- **Flow 1** (95th percentile 177.83 ms)
- **Flow 2** (95th percentile 154.43 ms)
- **Flow 3** (95th percentile 127.50 ms)
Run 4: Statistics of FillP

End at: 2018-07-26 19:49:12  
Local clock offset: -0.005 ms  
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-07-26 23:47:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 986.86 Mbit/s
95th percentile per-packet one-way delay: 229.346 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 588.17 Mbit/s
95th percentile per-packet one-way delay: 205.052 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 399.18 Mbit/s
95th percentile per-packet one-way delay: 232.758 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 408.12 Mbit/s
95th percentile per-packet one-way delay: 255.387 ms
Loss rate: 3.03%
Run 4: Report of FillP — Data Link

![Graph of data link performance over time]

- Flow 1 ingress (mean 589.56 Mbit/s)
- Flow 1 egress (mean 588.17 Mbit/s)
- Flow 2 ingress (mean 399.34 Mbit/s)
- Flow 2 egress (mean 399.18 Mbit/s)
- Flow 3 ingress (mean 417.47 Mbit/s)
- Flow 3 egress (mean 408.12 Mbit/s)

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

- Flow 1 (95th percentile 205.05 ms)
- Flow 2 (95th percentile 232.76 ms)
- Flow 3 (95th percentile 255.39 ms)
Run 5: Statistics of FillP

Start at: 2018-07-26 20:12:53
Local clock offset: -0.087 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2018-07-26 23:50:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1459.66 Mbit/s
95th percentile per-packet one-way delay: 150.753 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 796.75 Mbit/s
95th percentile per-packet one-way delay: 158.868 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 682.22 Mbit/s
95th percentile per-packet one-way delay: 146.248 ms
Loss rate: 2.22%
-- Flow 3:
Average throughput: 630.07 Mbit/s
95th percentile per-packet one-way delay: 134.037 ms
Loss rate: 2.88%
Run 5: Report of FillP — Data Link

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

![Graph 2: Per packet one-way delay (ms) vs Time (s)]
Run 6: Statistics of FillP

Start at: 2018-07-26 20:37:45
End at: 2018-07-26 20:38:15
Local clock offset: -0.108 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-07-26 23:50:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1253.19 Mbit/s
95th percentile per-packet one-way delay: 203.644 ms
Loss rate: 5.20%
-- Flow 1:
Average throughput: 704.85 Mbit/s
95th percentile per-packet one-way delay: 200.935 ms
Loss rate: 5.42%
-- Flow 2:
Average throughput: 552.60 Mbit/s
95th percentile per-packet one-way delay: 193.603 ms
Loss rate: 5.65%
-- Flow 3:
Average throughput: 547.06 Mbit/s
95th percentile per-packet one-way delay: 252.710 ms
Loss rate: 3.38%
Run 6: Report of FillP — Data Link

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

Throughput (Mbps):
- Flow 1 Ingress (mean 745.26 Mbps)
- Flow 1 Egress (mean 704.85 Mbps)
- Flow 2 Ingress (mean 585.66 Mbps)
- Flow 2 Egress (mean 552.60 Mbps)
- Flow 3 Ingress (mean 566.49 Mbps)
- Flow 3 Egress (mean 547.06 Mbps)

Packet delay (ms):
- Flow 1 (95th percentile 200.94 ms)
- Flow 2 (95th percentile 193.60 ms)
- Flow 3 (95th percentile 252.71 ms)
Run 7: Statistics of FillP

Start at: 2018-07-26 21:02:28
End at: 2018-07-26 21:02:58
Local clock offset: 0.019 ms
Remote clock offset: 0.224 ms

# Below is generated by plot.py at 2018-07-26 23:53:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1482.27 Mbit/s
95th percentile per-packet one-way delay: 163.887 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 813.92 Mbit/s
95th percentile per-packet one-way delay: 112.231 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 709.58 Mbit/s
95th percentile per-packet one-way delay: 194.072 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 590.75 Mbit/s
95th percentile per-packet one-way delay: 155.762 ms
Loss rate: 3.58%
Run 7: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 818.50 Mbps/s)
- Flow 1 Egress (mean 813.92 Mbps/s)
- Flow 2 Ingress (mean 730.23 Mbps/s)
- Flow 2 Egress (mean 709.58 Mbps/s)
- Flow 3 Ingress (mean 612.90 Mbps/s)
- Flow 3 Egress (mean 590.75 Mbps/s)

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

- Flow 1 (95th percentile 112.23 ms)
- Flow 2 (95th percentile 194.07 ms)
- Flow 3 (95th percentile 155.76 ms)
Run 8: Statistics of FillP

Local clock offset: -0.154 ms
Remote clock offset: -0.336 ms

# Below is generated by plot.py at 2018-07-26 23:53:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1370.99 Mbit/s
95th percentile per-packet one-way delay: 206.755 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 783.35 Mbit/s
95th percentile per-packet one-way delay: 170.497 ms
Loss rate: 2.26%
-- Flow 2:
Average throughput: 600.76 Mbit/s
95th percentile per-packet one-way delay: 207.949 ms
Loss rate: 2.65%
-- Flow 3:
Average throughput: 567.29 Mbit/s
95th percentile per-packet one-way delay: 246.238 ms
Loss rate: 1.63%
Run 8: Report of FillP — Data Link

---

**Throughput Graph (Mbps)**

- **Flow 1 ingress** (mean 801.52 Mbps)
- **Flow 1 egress** (mean 783.35 Mbps)
- **Flow 2 ingress** (mean 617.08 Mbps)
- **Flow 2 egress** (mean 600.76 Mbps)
- **Flow 3 ingress** (mean 576.41 Mbps)
- **Flow 3 egress** (mean 567.29 Mbps)

**Delay Graph (ms)**

- **Flow 1** (95th percentile 170.50 ms)
- **Flow 2** (95th percentile 207.95 ms)
- **Flow 3** (95th percentile 246.24 ms)
Run 9: Statistics of FillP

End at: 2018-07-26 21:52:58
Local clock offset: 0.08 ms
Remote clock offset: 0.21 ms

# Below is generated by plot.py at 2018-07-27 00:07:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1123.62 Mbit/s
95th percentile per-packet one-way delay: 233.080 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 642.25 Mbit/s
95th percentile per-packet one-way delay: 239.865 ms
Loss rate: 3.47%
-- Flow 2:
Average throughput: 364.77 Mbit/s
95th percentile per-packet one-way delay: 241.912 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 719.45 Mbit/s
95th percentile per-packet one-way delay: 130.660 ms
Loss rate: 2.71%
Run 9: Report of FillP — Data Link

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

- **Flow 1 Ingress (mean 665.44 Mbit/s)**
- **Flow 1 Egress (mean 642.25 Mbit/s)**
- **Flow 2 Ingress (mean 376.71 Mbit/s)**
- **Flow 2 Egress (mean 364.77 Mbit/s)**
- **Flow 3 Ingress (mean 739.54 Mbit/s)**
- **Flow 3 Egress (mean 719.45 Mbit/s)**

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

- **Flow 1 (95th percentile 230.97 ms)**
- **Flow 2 (95th percentile 241.91 ms)**
- **Flow 3 (95th percentile 130.66 ms)**
Run 10: Statistics of FillP

Start at: 2018-07-26 22:17:08
End at: 2018-07-26 22:17:38
Local clock offset: 0.151 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-07-27 00:20:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1419.71 Mbit/s
95th percentile per-packet one-way delay: 179.794 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 758.63 Mbit/s
95th percentile per-packet one-way delay: 215.042 ms
Loss rate: 2.70%
-- Flow 2:
Average throughput: 724.89 Mbit/s
95th percentile per-packet one-way delay: 138.134 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 538.29 Mbit/s
95th percentile per-packet one-way delay: 76.408 ms
Loss rate: 0.22%
Run 10: Report of FillP — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 Ingress (mean 779.66 Mbps)
- Flow 1 Egress (mean 758.63 Mbps)
- Flow 2 Ingress (mean 735.52 Mbps)
- Flow 2 Egress (mean 724.89 Mbps)
- Flow 3 Ingress (mean 539.34 Mbps)
- Flow 3 Egress (mean 538.29 Mbps)

Graph 2: Per-packet one-way delay (ms)
- Flow 1 (95th percentile 215.04 ms)
- Flow 2 (95th percentile 138.13 ms)
- Flow 3 (95th percentile 76.41 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-26 18:38:35
End at: 2018-07-26 18:39:05
Local clock offset: -0.168 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2018-07-27 00:22:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1383.30 Mbit/s
95th percentile per-packet one-way delay: 100.413 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 729.79 Mbit/s
95th percentile per-packet one-way delay: 109.157 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 686.88 Mbit/s
95th percentile per-packet one-way delay: 82.707 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 587.02 Mbit/s
95th percentile per-packet one-way delay: 86.137 ms
Loss rate: 0.40%
Run 1: Report of FillP-Sheep — Data Link

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

- Blue line: Flow 1 ingress (mean 730.89 Mbps)
- Dashed blue line: Flow 1 egress (mean 729.79 Mbps)
- Red line: Flow 2 ingress (mean 587.34 Mbps)
- Dashed red line: Flow 2 egress (mean 686.88 Mbps)
- Green line: Flow 3 ingress (mean 589.40 Mbps)
- Dashed green line: Flow 3 egress (mean 587.02 Mbps)

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

- Blue line: Flow 1 (95th percentile 109.16 ms)
- Green line: Flow 2 (95th percentile 82.71 ms)
- Red line: Flow 3 (95th percentile 86.14 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-26 19:03:29
End at: 2018-07-26 19:03:59
Local clock offset: -0.163 ms
Remote clock offset: 0.305 ms

# Below is generated by plot.py at 2018-07-27 00:22:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1317.57 Mbit/s
95th percentile per-packet one-way delay: 152.133 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 761.99 Mbit/s
95th percentile per-packet one-way delay: 89.419 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 627.19 Mbit/s
95th percentile per-packet one-way delay: 157.157 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 417.33 Mbit/s
95th percentile per-packet one-way delay: 176.512 ms
Loss rate: 0.55%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

End at: 2018-07-26 19:28:54
Local clock offset: -0.128 ms
Remote clock offset: 0.093 ms

# Below is generated by plot.py at 2018-07-27 00:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1363.79 Mbit/s
95th percentile per-packet one-way delay: 118.145 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 711.86 Mbit/s
95th percentile per-packet one-way delay: 113.310 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 695.24 Mbit/s
95th percentile per-packet one-way delay: 121.610 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 572.28 Mbit/s
95th percentile per-packet one-way delay: 125.606 ms
Loss rate: 1.27%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-26 19:53:03
End at: 2018-07-26 19:53:33
Local clock offset: 0.263 ms
Remote clock offset: -0.331 ms

# Below is generated by plot.py at 2018-07-27 00:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1032.33 Mbit/s
95th percentile per-packet one-way delay: 261.832 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 522.17 Mbit/s
95th percentile per-packet one-way delay: 272.464 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 475.84 Mbit/s
95th percentile per-packet one-way delay: 285.608 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 584.23 Mbit/s
95th percentile per-packet one-way delay: 135.545 ms
Loss rate: 0.66%
Run 4: Report of FillP-Sheep — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 524.69 Mbps)
  - Flow 1 egress (mean 522.17 Mbps)
  - Flow 2 ingress (mean 478.51 Mbps)
  - Flow 2 egress (mean 475.84 Mbps)
  - Flow 3 ingress (mean 588.47 Mbps)
  - Flow 3 egress (mean 584.23 Mbps)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 272.46 ms)
  - Flow 2 (95th percentile 285.61 ms)
  - Flow 3 (95th percentile 135.54 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-26 20:17:31
End at: 2018-07-26 20:18:01
Local clock offset: 0.093 ms
Remote clock offset: 0.086 ms

# Below is generated by plot.py at 2018-07-27 00:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1279.84 Mbit/s
95th percentile per-packet one-way delay: 97.822 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 672.72 Mbit/s
95th percentile per-packet one-way delay: 101.682 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 653.46 Mbit/s
95th percentile per-packet one-way delay: 87.740 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 519.72 Mbit/s
95th percentile per-packet one-way delay: 68.588 ms
Loss rate: 0.00%
Run 5: Report of FillP-Sheep — Data Link

![Graph 1: Throughput vs. Time]

- Flow 1 ingress (mean 672.78 Mbit/s)
- Flow 1 egress (mean 672.72 Mbit/s)
- Flow 2 ingress (mean 536.44 Mbit/s)
- Flow 2 egress (mean 653.46 Mbit/s)
- Flow 3 ingress (mean 519.78 Mbit/s)
- Flow 3 egress (mean 519.72 Mbit/s)

![Graph 2: Packet Delay vs. Time]

- Flow 1 (95th percentile 101.68 ms)
- Flow 2 (95th percentile 87.74 ms)
- Flow 3 (95th percentile 88.59 ms)
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-26 20:42:17
End at: 2018-07-26 20:42:47
Local clock offset: 0.02 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2018-07-27 00:30:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1360.20 Mbit/s
95th percentile per-packet one-way delay: 109.258 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 747.62 Mbit/s
95th percentile per-packet one-way delay: 97.338 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 670.61 Mbit/s
95th percentile per-packet one-way delay: 125.025 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 500.80 Mbit/s
95th percentile per-packet one-way delay: 93.980 ms
Loss rate: 0.08%
Run 6: Report of FillP-Sheep — Data Link

---

**Throughput (Mbps)**

- Flow 1 ingress (mean 748.26 Mbps)
- Flow 1 egress (mean 747.62 Mbps)
- Flow 2 ingress (mean 675.01 Mbps)
- Flow 2 egress (mean 670.63 Mbps)
- Flow 3 ingress (mean 501.36 Mbps)
- Flow 3 egress (mean 500.80 Mbps)

---

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

- Flow 1 (95th percentile 97.34 ms)
- Flow 2 (95th percentile 125.03 ms)
- Flow 3 (95th percentile 93.98 ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-26 21:07:12
End at: 2018-07-26 21:07:42
Local clock offset: 0.093 ms
Remote clock offset: -0.299 ms

# Below is generated by plot.py at 2018-07-27 00:46:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1307.11 Mbit/s
95th percentile per-packet one-way delay: 90.207 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 701.56 Mbit/s
95th percentile per-packet one-way delay: 91.621 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 642.51 Mbit/s
95th percentile per-packet one-way delay: 88.157 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 538.36 Mbit/s
95th percentile per-packet one-way delay: 65.298 ms
Loss rate: 0.00%
Run 7: Report of FillP-Sheep — Data Link
Run 8: Statistics of FillP-Sheep

End at: 2018-07-26 21:32:27
Local clock offset: -0.065 ms
Remote clock offset: -1.28 ms

# Below is generated by plot.py at 2018-07-27 00:53:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1399.08 Mbit/s
95th percentile per-packet one-way delay: 98.090 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 748.52 Mbit/s
95th percentile per-packet one-way delay: 97.119 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 685.68 Mbit/s
95th percentile per-packet one-way delay: 107.661 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 584.29 Mbit/s
95th percentile per-packet one-way delay: 84.039 ms
Loss rate: 0.00%
Run 8: Report of FillP-Sheep — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 749.57 Mbps)
- Flow 1 egress (mean 748.52 Mbps)
- Flow 2 ingress (mean 690.07 Mbps)
- Flow 2 egress (mean 685.68 Mbps)
- Flow 3 ingress (mean 585.12 Mbps)
- Flow 3 egress (mean 584.29 Mbps)

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

- Flow 1 (95th percentile 97.12 ms)
- Flow 2 (95th percentile 107.66 ms)
- Flow 3 (95th percentile 84.04 ms)
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-26 21:56:57
End at: 2018-07-26 21:57:27
Local clock offset: 0.041 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1322.84 Mbit/s
  95th percentile per-packet one-way delay: 98.618 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 712.60 Mbit/s
  95th percentile per-packet one-way delay: 98.652 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 658.54 Mbit/s
  95th percentile per-packet one-way delay: 101.228 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 518.92 Mbit/s
  95th percentile per-packet one-way delay: 55.598 ms
  Loss rate: 0.04%
Run 9: Report of FillP-Sheep — Data Link
Run 10: Statistics of FillP-Sheep

Local clock offset: -0.171 ms
Remote clock offset: 0.051 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1225.34 Mbit/s
95th percentile per-packet one-way delay: 186.154 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 666.61 Mbit/s
95th percentile per-packet one-way delay: 184.909 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 619.32 Mbit/s
95th percentile per-packet one-way delay: 103.524 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 441.90 Mbit/s
95th percentile per-packet one-way delay: 204.051 ms
Loss rate: 1.03%
Run 10: Report of FillP-Sheep — Data Link

![Data Link Throughput Graph](chart1)

![Data Link Delay Graph](chart2)
Run 1: Statistics of Indigo

Start at: 2018-07-26 18:17:40
End at: 2018-07-26 18:18:10
Local clock offset: -0.202 ms
Remote clock offset: -1.346 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.94 Mbit/s
95th percentile per-packet one-way delay: 56.847 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 168.81 Mbit/s
95th percentile per-packet one-way delay: 56.251 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.46 Mbit/s
95th percentile per-packet one-way delay: 56.832 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 161.43 Mbit/s
95th percentile per-packet one-way delay: 57.902 ms
Loss rate: 0.00%
Run 1: Report of Indigo — Data Link

![Graph showing throughput and per-packet one-way delay for flows 1, 2, and 3 over time.]

- Flow 1 ingress (mean 168.83 Mbit/s)
- Flow 1 egress (mean 168.81 Mbit/s)
- Flow 2 ingress (mean 191.48 Mbit/s)
- Flow 2 egress (mean 191.46 Mbit/s)
- Flow 3 ingress (mean 161.48 Mbit/s)
- Flow 3 egress (mean 161.43 Mbit/s)
Run 2: Statistics of Indigo

End at: 2018-07-26 18:42:53
Local clock offset: -0.066 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 398.81 Mbit/s
95th percentile per-packet one-way delay: 57.881 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 214.48 Mbit/s
95th percentile per-packet one-way delay: 56.931 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 199.09 Mbit/s
95th percentile per-packet one-way delay: 58.163 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 160.43 Mbit/s
95th percentile per-packet one-way delay: 59.237 ms
Loss rate: 0.05%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-07-26 19:07:12
End at: 2018-07-26 19:07:42
Local clock offset: -0.1 ms
Remote clock offset: 1.307 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
```plaintext
-- Total of 3 flows:
Average throughput: 394.84 Mbit/s
95th percentile per-packet one-way delay: 63.783 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 217.77 Mbit/s
95th percentile per-packet one-way delay: 61.319 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 189.50 Mbit/s
95th percentile per-packet one-way delay: 65.209 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 157.30 Mbit/s
95th percentile per-packet one-way delay: 67.851 ms
Loss rate: 0.22%
```
Run 3: Report of Indigo — Data Link

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

- **Throughput:**
  - Flow 1 ingress (mean 217.84 Mbit/s)
  - Flow 1 egress (mean 217.77 Mbit/s)
  - Flow 2 ingress (mean 189.65 Mbit/s)
  - Flow 2 egress (mean 189.50 Mbit/s)
  - Flow 3 ingress (mean 157.81 Mbit/s)
  - Flow 3 egress (mean 157.30 Mbit/s)

- **Per-packet queuing delay:**
  - Flow 1 (95th percentile 61.32 ms)
  - Flow 2 (95th percentile 65.21 ms)
  - Flow 3 (95th percentile 67.85 ms)
Run 4: Statistics of Indigo

Start at: 2018-07-26 19:32:14
End at: 2018-07-26 19:32:44
Local clock offset: 0.042 ms
Remote clock offset: 1.161 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 376.83 Mbit/s
  95th percentile per-packet one-way delay: 60.933 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 204.08 Mbit/s
  95th percentile per-packet one-way delay: 60.441 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 186.55 Mbit/s
  95th percentile per-packet one-way delay: 61.003 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 150.64 Mbit/s
  95th percentile per-packet one-way delay: 61.920 ms
  Loss rate: 0.10%
Run 4: Report of Indigo — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 204.11 Mbit/s)  Flow 1 egress (mean 204.08 Mbit/s)
Flow 2 ingress (mean 186.63 Mbit/s)  Flow 2 egress (mean 186.55 Mbit/s)
Flow 3 ingress (mean 150.73 Mbit/s)  Flow 3 egress (mean 150.64 Mbit/s)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 60.44 ms)  Flow 2 (95th percentile 61.00 ms)  Flow 3 (95th percentile 61.92 ms)
Run 5: Statistics of Indigo

Start at: 2018-07-26 19:56:38
End at: 2018-07-26 19:57:08
Local clock offset: 0.068 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.08 Mbit/s
95th percentile per-packet one-way delay: 62.648 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 214.80 Mbit/s
95th percentile per-packet one-way delay: 61.732 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 192.86 Mbit/s
95th percentile per-packet one-way delay: 62.966 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 146.23 Mbit/s
95th percentile per-packet one-way delay: 64.307 ms
Loss rate: 0.05%
Run 5: Report of Indigo — Data Link

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

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

*Legend for Graph 1:*
- **Flow 1 ingress (mean 214.79 Mbit/s)**
- **Flow 1 egress (mean 214.80 Mbit/s)**
- **Flow 2 ingress (mean 192.91 Mbit/s)**
- **Flow 2 egress (mean 192.86 Mbit/s)**
- **Flow 3 ingress (mean 146.31 Mbit/s)**
- **Flow 3 egress (mean 146.23 Mbit/s)**

*Legend for Graph 2:*
- **Flow 1 (95th percentile 61.73 ms)**
- **Flow 2 (95th percentile 62.97 ms)**
- **Flow 3 (95th percentile 64.31 ms)**
Run 6: Statistics of Indigo

Start at: 2018-07-26 20:21:06
End at: 2018-07-26 20:21:36
Local clock offset: -0.043 ms
Remote clock offset: 1.362 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 397.10 Mbit/s
  95th percentile per-packet one-way delay: 65.098 ms
  Loss rate: 0.00%

-- Flow 1:
  Average throughput: 211.44 Mbit/s
  95th percentile per-packet one-way delay: 63.532 ms
  Loss rate: 0.00%

-- Flow 2:
  Average throughput: 206.29 Mbit/s
  95th percentile per-packet one-way delay: 65.519 ms
  Loss rate: 0.00%

-- Flow 3:
  Average throughput: 150.38 Mbit/s
  95th percentile per-packet one-way delay: 67.483 ms
  Loss rate: 0.00%
Run 6: Report of Indigo — Data Link
Run 7: Statistics of Indigo

Start at: 2018-07-26 20:45:58
End at: 2018-07-26 20:46:28
Local clock offset: 0.08 ms
Remote clock offset: 1.336 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.52 Mbit/s
95th percentile per-packet one-way delay: 61.502 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 194.54 Mbit/s
95th percentile per-packet one-way delay: 60.841 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 195.06 Mbit/s
95th percentile per-packet one-way delay: 61.558 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 149.05 Mbit/s
95th percentile per-packet one-way delay: 62.600 ms
Loss rate: 0.00%
Run 7: Report of Indigo — Data Link
Run 8: Statistics of Indigo

Start at: 2018-07-26 21:10:54
End at: 2018-07-26 21:11:24
Local clock offset: -0.169 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.80 Mbit/s
95th percentile per-packet one-way delay: 58.920 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 212.08 Mbit/s
95th percentile per-packet one-way delay: 58.307 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 187.00 Mbit/s
95th percentile per-packet one-way delay: 59.079 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 158.83 Mbit/s
95th percentile per-packet one-way delay: 60.541 ms
Loss rate: 0.05%
Run 8: Report of Indigo — Data Link

![Graph 1: Throughput over Time]

- **Flow 1 ingress (mean 212.11 Mbit/s)**
- **Flow 1 egress (mean 212.08 Mbit/s)**
- **Flow 2 ingress (mean 187.67 Mbit/s)**
- **Flow 2 egress (mean 187.00 Mbit/s)**
- **Flow 3 ingress (mean 158.92 Mbit/s)**
- **Flow 3 egress (mean 158.83 Mbit/s)**

![Graph 2: Per-packet End-to-End Delay over Time]

- **Flow 1 (95th percentile 58.31 ms)**
- **Flow 2 (95th percentile 59.08 ms)**
- **Flow 3 (95th percentile 60.54 ms)**
Run 9: Statistics of Indigo

Start at: 2018-07-26 21:35:43
End at: 2018-07-26 21:36:13
Local clock offset: -0.089 ms
Remote clock offset: -1.47 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 399.48 Mbit/s
  95th percentile per-packet one-way delay: 59.973 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 220.05 Mbit/s
  95th percentile per-packet one-way delay: 59.077 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 196.93 Mbit/s
  95th percentile per-packet one-way delay: 60.404 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 150.97 Mbit/s
  95th percentile per-packet one-way delay: 60.857 ms
  Loss rate: 0.08%
Run 9: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 220.07 Mbps)
- Flow 1 egress (mean 220.05 Mbps)
- Flow 2 ingress (mean 196.96 Mbps)
- Flow 2 egress (mean 196.93 Mbps)
- Flow 3 ingress (mean 151.08 Mbps)
- Flow 3 egress (mean 150.97 Mbps)

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

- Flow 1 (95th percentile 59.08 ms)
- Flow 2 (95th percentile 60.40 ms)
- Flow 3 (95th percentile 60.86 ms)
Run 10: Statistics of Indigo

Start at: 2018-07-26 22:00:42
End at: 2018-07-26 22:01:12
Local clock offset: -0.018 ms
Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.92 Mbit/s
95th percentile per-packet one-way delay: 56.501 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 212.69 Mbit/s
95th percentile per-packet one-way delay: 55.684 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 188.30 Mbit/s
95th percentile per-packet one-way delay: 56.756 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 161.06 Mbit/s
95th percentile per-packet one-way delay: 58.004 ms
Loss rate: 0.07%
Run 10: Report of Indigo — Data Link

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

- **Flow 1 ingress** (mean 212.75 Mbit/s)
- **Flow 1 egress** (mean 212.69 Mbit/s)
- **Flow 2 ingress** (mean 188.37 Mbit/s)
- **Flow 2 egress** (mean 188.39 Mbit/s)
- **Flow 3 ingress** (mean 161.21 Mbit/s)
- **Flow 3 egress** (mean 161.06 Mbit/s)

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

- **Flow 1** (95th percentile 55.68 ms)
- **Flow 2** (95th percentile 56.76 ms)
- **Flow 3** (95th percentile 58.00 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-07-26 18:22:05
Local clock offset: -0.137 ms
Remote clock offset: -0.257 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 51.74 Mbit/s
   95th percentile per-packet one-way delay: 54.436 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 33.88 Mbit/s
   95th percentile per-packet one-way delay: 54.343 ms
   Loss rate: 0.00%
-- Flow 2:
   Average throughput: 22.31 Mbit/s
   95th percentile per-packet one-way delay: 54.620 ms
   Loss rate: 0.00%
-- Flow 3:
   Average throughput: 9.24 Mbit/s
   95th percentile per-packet one-way delay: 54.698 ms
   Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

Graphs showing throughput and packet delay over time for different flows.
Run 2: Statistics of LEDBAT

Start at: 2018-07-26 18:46:45
End at: 2018-07-26 18:47:15
Local clock offset: -0.127 ms
Remote clock offset: -0.358 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 52.70 Mbit/s
  95th percentile per-packet one-way delay: 53.695 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 34.14 Mbit/s
  95th percentile per-packet one-way delay: 53.775 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 22.43 Mbit/s
  95th percentile per-packet one-way delay: 53.476 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 50.898 ms
  Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

**Throughput (Mbit/s) vs Time (s)**

- **Flow 1 ingress** (mean 34.14 Mbit/s)
- **Flow 1 egress** (mean 34.14 Mbit/s)
- **Flow 2 ingress** (mean 22.42 Mbit/s)
- **Flow 2 egress** (mean 22.43 Mbit/s)
- **Flow 3 ingress** (mean 10.90 Mbit/s)
- **Flow 3 egress** (mean 10.91 Mbit/s)

**Per packet one way delay (ms) vs Time (s)**

- **Flow 1** (95th percentile 53.77 ms)
- **Flow 2** (95th percentile 53.48 ms)
- **Flow 3** (95th percentile 50.90 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-07-26 19:11:57
End at: 2018-07-26 19:12:27
Local clock offset: -0.111 ms
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 49.57 Mbit/s
  95th percentile per-packet one-way delay: 54.791 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 31.62 Mbit/s
  95th percentile per-packet one-way delay: 54.809 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 22.03 Mbit/s
  95th percentile per-packet one-way delay: 54.885 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 10.02 Mbit/s
  95th percentile per-packet one-way delay: 54.269 ms
  Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2018-07-26 19:36:36
End at: 2018-07-26 19:37:06
Local clock offset: 0.038 ms
Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 54.345 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 27.64 Mbit/s
95th percentile per-packet one-way delay: 54.400 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.21 Mbit/s
95th percentile per-packet one-way delay: 54.260 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.03 Mbit/s
95th percentile per-packet one-way delay: 53.909 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2018-07-26 20:01:00
End at: 2018-07-26 20:01:30
Local clock offset: 0.203 ms
Remote clock offset: -0.187 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 53.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 53.203 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.15 Mbit/s
95th percentile per-packet one-way delay: 51.499 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 51.571 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

![Graph showing throughput and packet round-trip time over time for different data flows. The graphs indicate the performance metrics for each flow, such as mean throughput and 95th percentile round-trip time.]

Legend:
- Flow 1 ingress (mean 32.05 Mbit/s)
- Flow 1 egress (mean 32.05 Mbit/s)
- Flow 2 ingress (mean 23.15 Mbit/s)
- Flow 2 egress (mean 23.15 Mbit/s)
- Flow 3 ingress (mean 11.69 Mbit/s)
- Flow 3 egress (mean 11.69 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 53.20 ms)
- Flow 2 (95th percentile 51.50 ms)
- Flow 3 (95th percentile 51.57 ms)
Run 6: Statistics of LEDBAT

Start at: 2018-07-26 20:25:31
End at: 2018-07-26 20:26:01
Local clock offset: 0.193 ms
Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.95 Mbit/s
95th percentile per-packet one-way delay: 53.870 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.74 Mbit/s
95th percentile per-packet one-way delay: 53.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.38 Mbit/s
95th percentile per-packet one-way delay: 54.080 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 54.183 ms
Loss rate: 0.00%
Run 6: Report of LEDBAT — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress (mean 32.75 Mbps)**
- **Flow 1 egress (mean 32.74 Mbps)**
- **Flow 2 ingress (mean 23.39 Mbps)**
- **Flow 2 egress (mean 23.38 Mbps)**
- **Flow 3 ingress (mean 10.99 Mbps)**
- **Flow 3 egress (mean 10.99 Mbps)**

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

- **Flow 1 (95th percentile 53.73 ms)**
- **Flow 2 (95th percentile 54.08 ms)**
- **Flow 3 (95th percentile 54.18 ms)**
Run 7: Statistics of LEDBAT

Start at: 2018-07-26 20:50:32
End at: 2018-07-26 20:51:02
Local clock offset: 0.095 ms
Remote clock offset: 1.067 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.03 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.39 Mbit/s
95th percentile per-packet one-way delay: 55.606 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.39 Mbit/s
95th percentile per-packet one-way delay: 55.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.38 Mbit/s
95th percentile per-packet one-way delay: 55.488 ms
Loss rate: 0.00%
Run 7: Report of LEDBAT — Data Link

[Graphs showing throughput and packet queuing delay over time for different flows]
Run 8: Statistics of LEDBAT

Start at: 2018-07-26 21:15:18
End at: 2018-07-26 21:15:48
Local clock offset: -0.135 ms
Remote clock offset: 1.202 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.60 Mbit/s
95th percentile per-packet one-way delay: 55.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.65 Mbit/s
95th percentile per-packet one-way delay: 55.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 55.155 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 54.095 ms
Loss rate: 0.00%
Run 8: Report of LEDBAT — Data Link
Run 9: Statistics of LEDBAT

Start at: 2018-07-26 21:40:11
End at: 2018-07-26 21:40:41
Local clock offset: -0.06 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 54.200 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 31.98 Mbit/s
95th percentile per-packet one-way delay: 54.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.84 Mbit/s
95th percentile per-packet one-way delay: 54.297 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.80 Mbit/s
95th percentile per-packet one-way delay: 54.323 ms
Loss rate: 1.23%
Run 9: Report of LEDBAT — Data Link

![Graph of data link throughput over time](image1)

![Graph of per-packet round-trip delay over time](image2)
Run 10: Statistics of LEDBAT

Start at: 2018-07-26 22:05:17
End at: 2018-07-26 22:05:47
Local clock offset: -0.053 ms
Remote clock offset: 1.242 ms

# Below is generated by plot.py at 2018-07-27 00:55:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.99 Mbit/s
95th percentile per-packet one-way delay: 55.877 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 55.852 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 56.312 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 55.279 ms
Loss rate: 0.00%
Run 10: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-26 18:29:49
End at: 2018-07-26 18:30:19
Local clock offset: -0.214 ms
Remote clock offset: 1.098 ms

# Below is generated by plot.py at 2018-07-27 01:00:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.07 Mbit/s
95th percentile per-packet one-way delay: 149.845 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 482.86 Mbit/s
95th percentile per-packet one-way delay: 150.007 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 38.09 Mbit/s
95th percentile per-packet one-way delay: 146.472 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 69.34 Mbit/s
95th percentile per-packet one-way delay: 149.953 ms
Loss rate: 1.01%
Run 1: Report of PCC-Allegro — Data Link

![Throughput Graph]

- **Flow 1** ingress (mean 485.60 Mbit/s)
- **Flow 2** ingress (mean 38.24 Mbit/s)
- **Flow 3** ingress (mean 70.08 Mbit/s)
- **Flow 1** egress (mean 482.86 Mbit/s)
- **Flow 2** egress (mean 38.09 Mbit/s)
- **Flow 3** egress (mean 69.34 Mbit/s)

![Packet Delay Graph]

- **Flow 1** (95th percentile 150.01 ms)
- **Flow 2** (95th percentile 146.47 ms)
- **Flow 3** (95th percentile 149.95 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-26 18:54:24
End at: 2018-07-26 18:54:54
Local clock offset: -0.356 ms
Remote clock offset: 0.244 ms

# Below is generated by plot.py at 2018-07-27 01:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 538.25 Mbit/s
95th percentile per-packet one-way delay: 182.427 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 500.76 Mbit/s
95th percentile per-packet one-way delay: 182.316 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 54.42 Mbit/s
95th percentile per-packet one-way delay: 183.424 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 92.110 ms
Loss rate: 0.15%
Run 2: Report of PCC-Allegro — Data Link

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

Flow 1 ingress (mean 506.33 Mbit/s)  Flow 1 egress (mean 500.76 Mbit/s)
Flow 2 ingress (mean 55.02 Mbit/s)   Flow 2 egress (mean 54.42 Mbit/s)
Flow 3 ingress (mean 4.14 Mbit/s)    Flow 3 egress (mean 4.13 Mbit/s)
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-26 19:19:32  
End at: 2018-07-26 19:20:02  
Local clock offset: ~0.022 ms  
Remote clock offset: ~0.113 ms

# Below is generated by plot.py at 2018-07-27 01:01:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 547.71 Mbit/s  
95th percentile per-packet one-way delay: 177.178 ms  
Loss rate: 0.85%  
-- Flow 1:  
Average throughput: 524.67 Mbit/s  
95th percentile per-packet one-way delay: 177.183 ms  
Loss rate: 0.86%  
-- Flow 2:  
Average throughput: 32.28 Mbit/s  
95th percentile per-packet one-way delay: 177.299 ms  
Loss rate: 0.68%  
-- Flow 3:  
Average throughput: 4.75 Mbit/s  
95th percentile per-packet one-way delay: 150.875 ms  
Loss rate: 0.03%
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-26 19:44:22
End at: 2018-07-26 19:44:53
Local clock offset: -0.076 ms
Remote clock offset: -0.294 ms

# Below is generated by plot.py at 2018-07-27 01:01:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 537.84 Mbit/s
95th percentile per-packet one-way delay: 109.289 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 511.07 Mbit/s
95th percentile per-packet one-way delay: 109.356 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 107.136 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.90 Mbit/s
95th percentile per-packet one-way delay: 112.209 ms
Loss rate: 0.00%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-26 20:08:34
End at: 2018-07-26 20:09:04
Local clock offset: 0.16 ms
Remote clock offset: 1.241 ms

# Below is generated by plot.py at 2018-07-27 01:01:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.58 Mbit/s
95th percentile per-packet one-way delay: 191.682 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 527.55 Mbit/s
95th percentile per-packet one-way delay: 191.678 ms
Loss rate: 3.82%
-- Flow 2:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 191.964 ms
Loss rate: 4.85%
-- Flow 3:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 192.138 ms
Loss rate: 3.74%
Run 5: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 548.47 Mbit/s)**
- **Flow 1 egress (mean 527.55 Mbit/s)**
- **Flow 2 ingress (mean 8.41 Mbit/s)**
- **Flow 2 egress (mean 6.00 Mbit/s)**
- **Flow 3 ingress (mean 2.25 Mbit/s)**
- **Flow 3 egress (mean 2.17 Mbit/s)**

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

- **Flow 1 (95th percentile 191.68 ms)**
- **Flow 2 (95th percentile 191.96 ms)**
- **Flow 3 (95th percentile 192.14 ms)**
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-26 20:33:21
End at: 2018-07-26 20:33:51
Local clock offset: 0.114 ms
Remote clock offset: 0.069 ms

# Below is generated by plot.py at 2018-07-27 01:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 537.93 Mbit/s
95th percentile per-packet one-way delay: 181.184 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 496.99 Mbit/s
95th percentile per-packet one-way delay: 181.204 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 32.09 Mbit/s
95th percentile per-packet one-way delay: 181.870 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 59.76 Mbit/s
95th percentile per-packet one-way delay: 178.200 ms
Loss rate: 1.75%
Run 6: Report of PCC-Allegro — Data Link

![Throughput Graph]

![Delay Graph]

Legend:
- Flow 1 ingress (mean 501.78 Mbit/s)
- Flow 1 egress (mean 496.99 Mbit/s)
- Flow 2 ingress (mean 32.43 Mbit/s)
- Flow 2 egress (mean 32.09 Mbit/s)
- Flow 3 ingress (mean 60.03 Mbit/s)
- Flow 3 egress (mean 59.76 Mbit/s)

Legend:
- Flow 1 (95th percentile 181.20 ms)
- Flow 2 (95th percentile 181.87 ms)
- Flow 3 (95th percentile 178.20 ms)
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-26 20:58:11
End at: 2018-07-26 20:58:41
Local clock offset: -0.012 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2018-07-27 01:06:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 542.35 Mbit/s
  95th percentile per-packet one-way delay: 183.068 ms
  Loss rate: 3.59%
-- Flow 1:
  Average throughput: 483.36 Mbit/s
  95th percentile per-packet one-way delay: 182.849 ms
  Loss rate: 3.36%
-- Flow 2:
  Average throughput: 60.13 Mbit/s
  95th percentile per-packet one-way delay: 183.350 ms
  Loss rate: 4.09%
-- Flow 3:
  Average throughput: 57.79 Mbit/s
  95th percentile per-packet one-way delay: 184.404 ms
  Loss rate: 8.07%
Run 7: Report of PCC-Allegro — Data Link
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-26 21:23:05
Local clock offset: -0.19 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-07-27 01:08:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 532.97 Mbit/s
95th percentile per-packet one-way delay: 103.718 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 485.48 Mbit/s
95th percentile per-packet one-way delay: 103.779 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 63.08 Mbit/s
95th percentile per-packet one-way delay: 103.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.84 Mbit/s
95th percentile per-packet one-way delay: 104.222 ms
Loss rate: 0.00%
Run 9: Statistics of PCC-Allegro

Local clock offset: -0.139 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2018-07-27 01:12:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.49 Mbit/s
95th percentile per-packet one-way delay: 184.081 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 491.98 Mbit/s
95th percentile per-packet one-way delay: 184.128 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 66.37 Mbit/s
95th percentile per-packet one-way delay: 184.047 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 84.773 ms
Loss rate: 0.00%
Run 9: Report of PCC-Allegro — Data Link

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

Key:
- Flow 1 ingress (mean 503.20 Mbit/s)
- Flow 1 egress (mean 491.98 Mbit/s)
- Flow 2 ingress (mean 67.70 Mbit/s)
- Flow 2 egress (mean 66.37 Mbit/s)
- Flow 3 ingress (mean 34.66 Mbit/s)
- Flow 3 egress (mean 34.66 Mbit/s)
Run 10: Statistics of PCC-Allegro

Start at: 2018-07-26 22:12:54
Local clock offset: -0.239 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2018-07-27 01:13:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 550.96 Mbit/s
95th percentile per-packet one-way delay: 173.399 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 505.49 Mbit/s
95th percentile per-packet one-way delay: 173.417 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 66.37 Mbit/s
95th percentile per-packet one-way delay: 173.325 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 94.210 ms
Loss rate: 0.00%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-07-26 18:31:16
End at: 2018-07-26 18:31:46
Local clock offset: -0.145 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-07-27 01:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.38 Mbit/s
95th percentile per-packet one-way delay: 180.861 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 105.39 Mbit/s
95th percentile per-packet one-way delay: 53.815 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 318.36 Mbit/s
95th percentile per-packet one-way delay: 187.260 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 63.38 Mbit/s
95th percentile per-packet one-way delay: 54.820 ms
Loss rate: 0.00%
Run 1: Report of PCC-Expr — Data Link

Graph with two sub-plots showing throughput and per-packet one-way delay over time for three different flows with specified mean values for each flow.
Run 2: Statistics of PCC-Expr

Start at: 2018-07-26 18:55:52
End at: 2018-07-26 18:56:22
Local clock offset: -0.229 ms
Remote clock offset: -0.155 ms

# Below is generated by plot.py at 2018-07-27 01:20:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 468.19 Mbit/s
95th percentile per-packet one-way delay: 193.919 ms
Loss rate: 7.84%
-- Flow 1:
Average throughput: 297.40 Mbit/s
95th percentile per-packet one-way delay: 192.703 ms
Loss rate: 6.15%
-- Flow 2:
Average throughput: 254.33 Mbit/s
95th percentile per-packet one-way delay: 195.485 ms
Loss rate: 10.66%
-- Flow 3:
Average throughput: 4.99 Mbit/s
95th percentile per-packet one-way delay: 192.530 ms
Loss rate: 9.10%
Run 2: Report of PCC-Expr — Data Link

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

![Graph 2: Per-packet one-way delay (ms)](image2)
Run 3: Statistics of PCC-Expr

Start at: 2018-07-26 19:21:00
End at: 2018-07-26 19:21:30
Local clock offset: -0.125 ms
Remote clock offset: 0.175 ms

# Below is generated by plot.py at 2018-07-27 01:20:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 376.18 Mbit/s
95th percentile per-packet one-way delay: 186.420 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 328.60 Mbit/s
95th percentile per-packet one-way delay: 186.622 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 47.52 Mbit/s
95th percentile per-packet one-way delay: 185.374 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 48.47 Mbit/s
95th percentile per-packet one-way delay: 61.866 ms
Loss rate: 0.01%
Run 3: Report of PCC-Expr — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 331.98 Mbps)  Flow 1 egress (mean 328.60 Mbps)
Flow 2 ingress (mean 48.02 Mbps)  Flow 2 egress (mean 47.52 Mbps)
Flow 3 ingress (mean 49.47 Mbps)  Flow 3 egress (mean 48.47 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 186.62 ms)  Flow 2 (95th percentile 185.37 ms)  Flow 3 (95th percentile 61.87 ms)
Run 4: Statistics of PCC-Expr

Start at: 2018-07-26 19:45:49
End at: 2018-07-26 19:46:19
Local clock offset: -0.016 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-07-27 01:23:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 456.87 Mbit/s
  95th percentile per-packet one-way delay: 190.054 ms
  Loss rate: 5.19%
-- Flow 1:
  Average throughput: 354.46 Mbit/s
  95th percentile per-packet one-way delay: 202.339 ms
  Loss rate: 5.33%
-- Flow 2:
  Average throughput: 89.48 Mbit/s
  95th percentile per-packet one-way delay: 177.487 ms
  Loss rate: 2.35%
-- Flow 3:
  Average throughput: 130.35 Mbit/s
  95th percentile per-packet one-way delay: 180.769 ms
  Loss rate: 7.83%
Run 4: Report of PCC-Expr — Data Link
Run 5: Statistics of PCC-Expr

Start at: 2018-07-26 20:10:01
End at: 2018-07-26 20:10:31
Local clock offset: 0.049 ms
Remote clock offset: -1.388 ms

# Below is generated by plot.py at 2018-07-27 01:23:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 421.38 Mbit/s
95th percentile per-packet one-way delay: 194.832 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 285.86 Mbit/s
95th percentile per-packet one-way delay: 191.717 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 189.99 Mbit/s
95th percentile per-packet one-way delay: 197.069 ms
Loss rate: 2.78%
-- Flow 3:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 53.026 ms
Loss rate: 0.34%
Run 5: Report of PCC-Expr — Data Link

[Graph showing throughput trends over time for different flows, with legends indicating mean throughputs.]

[Another graph showing per-packet one-way delay trends over time for different flows, with legends indicating 95th percentile delays.]
Run 6: Statistics of PCC-Expr

Start at: 2018-07-26 20:34:48
End at: 2018-07-26 20:35:18
Local clock offset: 0.048 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2018-07-27 01:33:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 518.04 Mbit/s
  95th percentile per-packet one-way delay: 211.880 ms
  Loss rate: 21.24%
-- Flow 1:
  Average throughput: 304.85 Mbit/s
  95th percentile per-packet one-way delay: 213.927 ms
  Loss rate: 18.38%
-- Flow 2:
  Average throughput: 318.05 Mbit/s
  95th percentile per-packet one-way delay: 210.751 ms
  Loss rate: 24.99%
-- Flow 3:
  Average throughput: 5.30 Mbit/s
  95th percentile per-packet one-way delay: 202.561 ms
  Loss rate: 25.46%
Run 6: Report of PCC-Expr — Data Link

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

Legend:
- Flow 1 ingress (mean 373.55 Mbit/s)
- Flow 1 egress (mean 284.85 Mbit/s)
- Flow 2 ingress (mean 424.02 Mbit/s)
- Flow 2 egress (mean 318.05 Mbit/s)
- Flow 3 ingress (mean 7.11 Mbit/s)
- Flow 3 egress (mean 5.30 Mbit/s)
Run 7: Statistics of PCC-Expr

Start at: 2018-07-26 20:59:38
End at: 2018-07-26 21:00:08
Local clock offset: -0.065 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-27 01:33:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.23 Mbit/s
95th percentile per-packet one-way delay: 183.108 ms
Loss rate: 6.13%
-- Flow 1:
Average throughput: 245.46 Mbit/s
95th percentile per-packet one-way delay: 179.245 ms
Loss rate: 3.91%
-- Flow 2:
Average throughput: 230.41 Mbit/s
95th percentile per-packet one-way delay: 184.395 ms
Loss rate: 8.95%
-- Flow 3:
Average throughput: 80.72 Mbit/s
95th percentile per-packet one-way delay: 183.780 ms
Loss rate: 9.24%
Run 7: Report of PCC-Expr — Data Link

Graph 1: Throughput (Mb/s) vs Time (s)
- Flow 1 ingress (mean 235.46 Mb/s)
- Flow 1 egress (mean 245.46 Mb/s)
- Flow 2 ingress (mean 233.69 Mb/s)
- Flow 2 egress (mean 230.41 Mb/s)
- Flow 3 ingress (mean 88.94 Mb/s)
- Flow 3 egress (mean 89.72 Mb/s)

Graph 2: Per-packet one-way delay (ms) vs Time (s)
- Flow 1 (95th percentile 179.25 ms)
- Flow 2 (95th percentile 184.40 ms)
- Flow 3 (95th percentile 183.78 ms)
Run 8: Statistics of PCC-Expr

End at: 2018-07-26 21:25:02
Local clock offset: -0.074 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-07-27 01:33:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 330.39 Mbit/s
95th percentile per-packet one-way delay: 165.189 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 113.52 Mbit/s
95th percentile per-packet one-way delay: 54.089 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 261.40 Mbit/s
95th percentile per-packet one-way delay: 223.577 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 130.74 Mbit/s
95th percentile per-packet one-way delay: 53.988 ms
Loss rate: 0.04%
Run 8: Report of PCC-Expr — Data Link

![Graph showing throughput and per-packet delay over time for different flows. The graphs display the throughput and delay for three different flows, with each flow represented by a different line color. The throughput graph shows the variation in data rate over time, while the delay graph shows the variation in delay.]

Flow 1 ingress (mean 113.66 Mbit/s)
Flow 1 egress (mean 113.52 Mbit/s)
Flow 2 ingress (mean 264.95 Mbit/s)
Flow 2 egress (mean 261.40 Mbit/s)
Flow 3 ingress (mean 130.75 Mbit/s)
Flow 3 egress (mean 130.74 Mbit/s)

Flow 1 (95th percentile 54.09 ms)
Flow 2 (95th percentile 223.58 ms)
Flow 3 (95th percentile 53.99 ms)
Run 9: Statistics of PCC-Expr

Start at: 2018-07-26 21:49:34
End at: 2018-07-26 21:50:04
Local clock offset: -0.065 ms
Remote clock offset: -0.242 ms

# Below is generated by plot.py at 2018-07-27 01:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.81 Mbit/s
95th percentile per-packet one-way delay: 198.548 ms
Loss rate: 6.00%
-- Flow 1:
Average throughput: 336.60 Mbit/s
95th percentile per-packet one-way delay: 200.217 ms
Loss rate: 5.69%
-- Flow 2:
Average throughput: 136.93 Mbit/s
95th percentile per-packet one-way delay: 197.364 ms
Loss rate: 6.61%
-- Flow 3:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 197.573 ms
Loss rate: 8.02%
Run 9: Report of PCC-Expr — Data Link

- **Throughput (Mbit/s)**
  - Flow 1 ingress (mean 356.89 Mbit/s)
  - Flow 2 ingress (mean 146.63 Mbit/s)
  - Flow 3 ingress (mean 83.05 Mbit/s)
  - Flow 1 egress (mean 336.60 Mbit/s)
  - Flow 2 egress (mean 136.93 Mbit/s)
  - Flow 3 egress (mean 76.38 Mbit/s)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 200.22 ms)
  - Flow 2 (95th percentile 197.36 ms)
  - Flow 3 (95th percentile 197.57 ms)
Run 10: Statistics of PCC-Expr

Start at: 2018-07-26 22:14:21
End at: 2018-07-26 22:14:51
Local clock offset: 0.13 ms
Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2018-07-27 01:36:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 430.42 Mbit/s
  95th percentile per-packet one-way delay: 286.171 ms
  Loss rate: 9.48%
-- Flow 1:
  Average throughput: 350.57 Mbit/s
  95th percentile per-packet one-way delay: 293.520 ms
  Loss rate: 11.02%
-- Flow 2:
  Average throughput: 89.44 Mbit/s
  95th percentile per-packet one-way delay: 178.459 ms
  Loss rate: 1.22%
-- Flow 3:
  Average throughput: 61.72 Mbit/s
  95th percentile per-packet one-way delay: 180.865 ms
  Loss rate: 4.30%
Run 10: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-26 18:36:00
End at: 2018-07-26 18:36:30
Local clock offset: -0.303 ms
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2018-07-27 01:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.70 Mbit/s
95th percentile per-packet one-way delay: 50.549 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 50.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.82 Mbit/s
95th percentile per-packet one-way delay: 50.536 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.69 Mbit/s
95th percentile per-packet one-way delay: 50.573 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 0.06 Mbit/s)
- Flow 1 egress (mean 0.06 Mbit/s)
- Flow 2 ingress (mean 60.82 Mbit/s)
- Flow 2 egress (mean 60.82 Mbit/s)
- Flow 3 ingress (mean 46.68 Mbit/s)
- Flow 3 egress (mean 46.69 Mbit/s)
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-26 19:00:49
End at: 2018-07-26 19:01:19
Local clock offset: -0.117 ms
Remote clock offset: 0.17 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.59 Mbit/s
95th percentile per-packet one-way delay: 53.825 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.43 Mbit/s
95th percentile per-packet one-way delay: 53.853 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.84 Mbit/s
95th percentile per-packet one-way delay: 53.184 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.08 Mbit/s
95th percentile per-packet one-way delay: 53.144 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

![Graph of Throughput vs. Time](image1)

- Flow 1 ingress (mean 57.43 Mbit/s)
- Flow 1 egress (mean 57.43 Mbit/s)
- Flow 2 ingress (mean 60.84 Mbit/s)
- Flow 2 egress (mean 60.84 Mbit/s)
- Flow 3 ingress (mean 62.07 Mbit/s)
- Flow 3 egress (mean 62.08 Mbit/s)

![Graph of Per-packet one-way delay vs. Time](image2)

- Flow 1 (95th percentile 53.85 ms)
- Flow 2 (95th percentile 53.18 ms)
- Flow 3 (95th percentile 53.14 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-26 19:25:51
End at: 2018-07-26 19:26:21
Local clock offset: -0.084 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 107.57 Mbit/s
  95th percentile per-packet one-way delay: 53.328 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 60.32 Mbit/s
  95th percentile per-packet one-way delay: 53.221 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 60.78 Mbit/s
  95th percentile per-packet one-way delay: 50.371 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 20.96 Mbit/s
  95th percentile per-packet one-way delay: 53.498 ms
  Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-26 19:50:30
End at: 2018-07-26 19:51:00
Local clock offset: -0.056 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 53.106 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 53.376 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.60 Mbit/s
95th percentile per-packet one-way delay: 50.159 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.88 Mbit/s
95th percentile per-packet one-way delay: 53.166 ms
Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 0.06 Mbit/s) vs Flow 1 egress (mean 0.06 Mbit/s)
- Flow 2 ingress (mean 63.58 Mbit/s) vs Flow 2 egress (mean 63.60 Mbit/s)
- Flow 3 ingress (mean 41.88 Mbit/s) vs Flow 3 egress (mean 41.88 Mbit/s)

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

- Flow 1 (95th percentile 53.38 ms)
- Flow 2 (95th percentile 50.16 ms)
- Flow 3 (95th percentile 53.17 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-26 20:14:58
End at: 2018-07-26 20:15:28
Local clock offset: 0.049 ms
Remote clock offset: -1.341 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.87 Mbit/s
95th percentile per-packet one-way delay: 48.932 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.52 Mbit/s
95th percentile per-packet one-way delay: 48.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 48.871 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.38 Mbit/s
95th percentile per-packet one-way delay: 48.967 ms
Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.](image)
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-26 20:39:44
End at: 2018-07-26 20:40:14
Local clock offset: -0.231 ms
Remote clock offset: 0.224 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 60.14 Mbit/s
  95th percentile per-packet one-way delay: 54.240 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 50.566 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 69.85 Mbit/s
  95th percentile per-packet one-way delay: 54.252 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 41.92 Mbit/s
  95th percentile per-packet one-way delay: 53.740 ms
  Loss rate: 0.00%
Run 6: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 0.06 Mbit/s)
- Flow 1 egress (mean 0.06 Mbit/s)
- Flow 2 ingress (mean 69.85 Mbit/s)
- Flow 2 egress (mean 69.85 Mbit/s)
- Flow 3 ingress (mean 41.91 Mbit/s)
- Flow 3 egress (mean 41.92 Mbit/s)

![Graph 2: Per-packet error vs Time](image2)

- Flow 1 (95th percentile 50.57 ms)
- Flow 2 (95th percentile 54.25 ms)
- Flow 3 (95th percentile 53.74 ms)
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-26 21:04:34
End at: 2018-07-26 21:05:04
Local clock offset: 0.136 ms
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.72 Mbit/s
95th percentile per-packet one-way delay: 53.435 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 58.91 Mbit/s
95th percentile per-packet one-way delay: 53.456 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 61.23 Mbit/s
95th percentile per-packet one-way delay: 53.313 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 43.24 Mbit/s
95th percentile per-packet one-way delay: 53.420 ms
Loss rate: 0.00%
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-26 21:29:18
End at: 2018-07-26 21:29:48
Local clock offset: -0.007 ms
Remote clock offset: -1.48 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.40 Mbit/s
95th percentile per-packet one-way delay: 51.838 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 49.463 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.54 Mbit/s
95th percentile per-packet one-way delay: 51.635 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.52 Mbit/s
95th percentile per-packet one-way delay: 51.867 ms
Loss rate: 0.00%
Run 8: Report of QUIC Cubic — Data Link

**Graph 1:**
Throughput (Mbps) over time (s)
- Flow 1 ingress (mean 0.06 Mbps)
- Flow 1 egress (mean 0.06 Mbps)
- Flow 2 ingress (mean 39.54 Mbps)
- Flow 2 egress (mean 39.54 Mbps)
- Flow 3 ingress (mean 64.54 Mbps)
- Flow 3 egress (mean 64.52 Mbps)

**Graph 2:**
Per packet one-way delay (ms)
- Flow 1 (95th percentile 49.46 ms)
- Flow 2 (95th percentile 51.63 ms)
- Flow 3 (95th percentile 51.87 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-26 21:54:22
End at: 2018-07-26 21:54:52
Local clock offset: -0.245 ms
Remote clock offset: -1.397 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.13 Mbit/s
95th percentile per-packet one-way delay: 49.031 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 49.549 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.96 Mbit/s
95th percentile per-packet one-way delay: 49.025 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.16 Mbit/s
95th percentile per-packet one-way delay: 49.048 ms
Loss rate: 0.00%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-26 22:19:12
End at: 2018-07-26 22:19:43
Local clock offset: -0.139 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.37 Mbit/s
95th percentile per-packet one-way delay: 50.748 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.74 Mbit/s
95th percentile per-packet one-way delay: 50.754 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 50.742 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.07 Mbit/s
95th percentile per-packet one-way delay: 50.537 ms
Loss rate: 0.00%
Run 10: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2018-07-26 18:32:51
End at: 2018-07-26 18:33:21
Local clock offset: -0.106 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.695 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.700 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.699 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.570 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

![Graphs showing network throughput and per-packet one-way delay over time for different flows.](image-url)
Run 2: Statistics of SCReAM

Start at: 2018-07-26 18:57:36
End at: 2018-07-26 18:58:06
Local clock offset: -0.033 ms
Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.816 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.840 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.887 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.439 ms
Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link
Run 3: Statistics of SCReAM

End at: 2018-07-26 19:23:08
Local clock offset: -0.217 ms
Remote clock offset: 1.415 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 55.344 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.853 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 55.382 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 55.011 ms
  Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-07-26 19:47:33
End at: 2018-07-26 19:48:03
Local clock offset: -0.055 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.514 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.629 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.332 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

![Graph 1](image1)

![Graph 2](image2)
Run 5: Statistics of SCReAM

Start at: 2018-07-26 20:11:45
End at: 2018-07-26 20:12:15
Local clock offset: 0.015 ms
Remote clock offset: 1.364 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.949 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.957 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.958 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 54.547 ms
  Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link
Run 6: Statistics of SCReAM

Start at: 2018-07-26 20:36:36
End at: 2018-07-26 20:37:06
Local clock offset: -0.086 ms
Remote clock offset: -1.441 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.891 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.457 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.609 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.959 ms
Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link

![Graph showing network performance metrics over time, including throughput and per-packet one-way delay.]

- **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)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 49.46 ms)
  - Flow 2 (95th percentile 49.61 ms)
  - Flow 3 (95th percentile 51.96 ms)
Run 7: Statistics of SCReAM

Start at: 2018-07-26 21:01:20
End at: 2018-07-26 21:01:50
Local clock offset: 0.026 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 54.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.783 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 54.140 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.733 ms
Loss rate: 0.00%
Run 8: Statistics of SCReAM

Start at: 2018-07-26 21:26:09
End at: 2018-07-26 21:26:39
Local clock offset: -0.046 ms
Remote clock offset: 0.068 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.908 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.880 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.627 ms
Loss rate: 0.00%
Run 8: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.22 Mbps)
Flow 1 egress (mean 0.22 Mbps)
Flow 2 ingress (mean 0.21 Mbps)
Flow 2 egress (mean 0.21 Mbps)
Flow 3 ingress (mean 0.22 Mbps)
Flow 3 egress (mean 0.22 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 50.91 ms)
Flow 2 (95th percentile 53.88 ms)
Flow 3 (95th percentile 53.63 ms)
Run 9: Statistics of SCReAM

End at: 2018-07-26 21:51:50  
Local clock offset: -0.244 ms  
Remote clock offset: -0.251 ms

# Below is generated by plot.py at 2018-07-27 01:36:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 53.607 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 53.645 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 50.641 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 50.673 ms  
Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

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

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

- Flow 1 (95th percentile 53.65 ms)
- Flow 2 (95th percentile 50.64 ms)
- Flow 3 (95th percentile 50.67 ms)
Run 10: Statistics of SCReAM

Start at: 2018-07-26 22:16:00
End at: 2018-07-26 22:16:30
Local clock offset: 0.014 ms
Remote clock offset: -0.197 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.303 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.341 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.464 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.135 ms
Loss rate: 0.00%
Run 10: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

Start at: 2018-07-26 18:28:41
End at: 2018-07-26 18:29:11
Local clock offset: 0.102 ms
Remote clock offset: -1.449 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 52.508 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 52.510 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 52.541 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 52.252 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-07-26 18:53:15
End at: 2018-07-26 18:53:45
Local clock offset: -0.17 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 54.140 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 54.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 54.164 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 54.289 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link

![Graph of throughput and per-packet one-way delay for flows 1, 2, and 3 over time.]

- **Throughput (Mbps):**
  - Blue dashed line: Flow 1 ingress (mean 6.73 Mbps)
  - Blue solid line: Flow 1 egress (mean 6.73 Mbps)
  - Green dashed line: Flow 2 ingress (mean 6.65 Mbps)
  - Green solid line: Flow 2 egress (mean 6.65 Mbps)
  - Pink dashed line: Flow 3 ingress (mean 6.90 Mbps)
  - Pink solid line: Flow 3 egress (mean 6.90 Mbps)

- **Per-packet one-way delay (ms):**
  - *Flow 1 (95th percentile 54.07 ms)*
  - *Flow 2 (95th percentile 54.16 ms)*
  - *Flow 3 (95th percentile 54.29 ms)*
Run 3: Statistics of Sprout

End at: 2018-07-26 19:18:53
Local clock offset: -0.116 ms
Remote clock offset: 0.244 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 54.363 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 54.398 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 54.301 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 54.238 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

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

Legend:
- Blue dotted line: Flow 1 ingress (mean 6.33 Mbit/s)
- Blue solid line: Flow 1 egress (mean 6.33 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 3.26 Mbit/s)
- Green solid line: Flow 2 egress (mean 3.26 Mbit/s)
- Red dotted line: Flow 3 ingress (mean 2.02 Mbit/s)
- Red solid line: Flow 3 egress (mean 2.02 Mbit/s)

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

Legend:
- Blue dotted line: Flow 1 (95th percentile 54.40 ms)
- Green dashed line: Flow 2 (95th percentile 54.30 ms)
- Red dotted line: Flow 3 (95th percentile 54.24 ms)
Run 4: Statistics of Sprout

End at: 2018-07-26 19:43:43
Local clock offset: -0.024 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 53.540 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 53.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.16 Mbit/s
95th percentile per-packet one-way delay: 53.434 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 53.559 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 6.42 Mbps)
  - Flow 1 egress (mean 6.42 Mbps)
  - Flow 2 ingress (mean 6.16 Mbps)
  - Flow 2 egress (mean 6.16 Mbps)
  - Flow 3 ingress (mean 6.70 Mbps)
  - Flow 3 egress (mean 6.70 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 53.60 ms)
  - Flow 2 (95th percentile 53.43 ms)
  - Flow 3 (95th percentile 53.56 ms)
Run 5: Statistics of Sprout

Start at: 2018-07-26 20:07:25
End at: 2018-07-26 20:07:55
Local clock offset: 0.016 ms
Remote clock offset: 1.362 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.90 Mbit/s
95th percentile per-packet one-way delay: 55.420 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.44 Mbit/s
95th percentile per-packet one-way delay: 55.363 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 55.485 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.74 Mbit/s
95th percentile per-packet one-way delay: 55.414 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link

![Graph showing throughput over time](image)

- **Throughput (Mbit/s)**
  - Flow 1 ingress (mean 7.44 Mbit/s)
  - Flow 1 egress (mean 7.44 Mbit/s)
  - Flow 2 ingress (mean 7.88 Mbit/s)
  - Flow 2 egress (mean 7.88 Mbit/s)
  - Flow 3 ingress (mean 6.74 Mbit/s)
  - Flow 3 egress (mean 6.74 Mbit/s)

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

- **Per packet one way delay (ms)**
  - Flow 1 (95th percentile 55.36 ms)
  - Flow 2 (95th percentile 55.48 ms)
  - Flow 3 (95th percentile 55.41 ms)
Run 6: Statistics of Sprout

Start at: 2018-07-26 20:32:12
End at: 2018-07-26 20:32:42
Local clock offset: 0.133 ms
Remote clock offset: -0.181 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 12.64 Mbit/s
  95th percentile per-packet one-way delay: 54.028 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 6.57 Mbit/s
  95th percentile per-packet one-way delay: 53.960 ms
  Loss rate: 0.19%
-- Flow 2:
  Average throughput: 6.93 Mbit/s
  95th percentile per-packet one-way delay: 54.089 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 4.42 Mbit/s
  95th percentile per-packet one-way delay: 54.066 ms
  Loss rate: 0.00%
Run 6: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 6.58 Mbps)
- Flow 1 egress (mean 6.57 Mbps)
- Flow 2 ingress (mean 6.93 Mbps)
- Flow 2 egress (mean 6.93 Mbps)
- Flow 3 ingress (mean 4.42 Mbps)
- Flow 3 egress (mean 4.42 Mbps)

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

- Flow 1 (95th percentile 53.96 ms)
- Flow 2 (95th percentile 54.09 ms)
- Flow 3 (95th percentile 54.07 ms)
Run 7: Statistics of Sprout

Start at: 2018-07-26 20:57:01
End at: 2018-07-26 20:57:31
Local clock offset: -0.157 ms
Remote clock offset: 0.139 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.68 Mbit/s
95th percentile per-packet one-way delay: 54.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 54.429 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 54.498 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 54.090 ms
Loss rate: 0.00%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Local clock offset: -0.08 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 53.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 54.004 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 53.929 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 53.874 ms
Loss rate: 0.00%
Run 9: Statistics of Sprout

Local clock offset: 0.04 ms
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 12.57 Mbit/s
  95th percentile per-packet one-way delay: 53.679 ms
  Loss rate: 0.27%
-- Flow 1:
  Average throughput: 5.43 Mbit/s
  95th percentile per-packet one-way delay: 53.654 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 7.21 Mbit/s
  95th percentile per-packet one-way delay: 53.637 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 7.10 Mbit/s
  95th percentile per-packet one-way delay: 53.870 ms
  Loss rate: 0.00%
Run 9: Report of Sprout — Data Link

![Graph showing throughput and per-packet round-trip delay over time for different flows.](image-url)
Run 10: Statistics of Sprout

Start at: 2018-07-26 22:11:44
End at: 2018-07-26 22:12:14
Local clock offset: 0.132 ms
Remote clock offset: 0.104 ms

# Below is generated by plot.py at 2018-07-27 01:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.26 Mbit/s
95th percentile per-packet one-way delay: 53.906 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.68 Mbit/s
95th percentile per-packet one-way delay: 53.847 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 53.976 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 53.919 ms
Loss rate: 0.00%
Run 10: Report of Sprout — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.66 Mbps/s)
Flow 1 egress (mean 6.68 Mbps/s)
Flow 2 ingress (mean 6.46 Mbps/s)
Flow 2 egress (mean 6.46 Mbps/s)
Flow 3 ingress (mean 6.91 Mbps/s)
Flow 3 egress (mean 6.91 Mbps/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 53.85 ms)
Flow 2 (95th percentile 53.98 ms)
Flow 3 (95th percentile 53.92 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-26 18:19:10
End at: 2018-07-26 18:19:40
Local clock offset: -0.086 ms
Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2018-07-27 01:37:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 163.84 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.60 Mbit/s
95th percentile per-packet one-way delay: 50.817 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.53 Mbit/s
95th percentile per-packet one-way delay: 53.702 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 214.22 Mbit/s
95th percentile per-packet one-way delay: 53.679 ms
Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 82.61 Mbps)
  - Flow 1 egress (mean 82.60 Mbps)
  - Flow 2 ingress (mean 14.53 Mbps)
  - Flow 2 egress (mean 14.53 Mbps)
  - Flow 3 ingress (mean 214.23 Mbps)
  - Flow 3 egress (mean 214.22 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 50.82 ms)
  - Flow 2 (95th percentile 53.70 ms)
  - Flow 3 (95th percentile 53.68 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-26 18:43:56
End at: 2018-07-26 18:44:26
Local clock offset: -0.091 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-27 01:37:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.34 Mbit/s
95th percentile per-packet one-way delay: 53.537 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.61 Mbit/s
95th percentile per-packet one-way delay: 53.488 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.57 Mbit/s
95th percentile per-packet one-way delay: 53.565 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.20 Mbit/s
95th percentile per-packet one-way delay: 53.555 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

![Graph of throughputs and delays over time for different flows.](image-url)
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-26 19:08:45
End at: 2018-07-26 19:09:15
Local clock offset: -0.123 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 361.78 Mbit/s
  95th percentile per-packet one-way delay: 57.953 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 241.83 Mbit/s
  95th percentile per-packet one-way delay: 58.619 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 172.81 Mbit/s
  95th percentile per-packet one-way delay: 56.630 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 14.57 Mbit/s
  95th percentile per-packet one-way delay: 53.519 ms
  Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-26 19:33:46
End at: 2018-07-26 19:34:16
Local clock offset: -0.271 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.43 Mbit/s
95th percentile per-packet one-way delay: 55.481 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 55.014 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 154.90 Mbit/s
95th percentile per-packet one-way delay: 55.494 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 16.38 Mbit/s
95th percentile per-packet one-way delay: 56.083 ms
Loss rate: 0.01%
Run 4: Report of TaoVA-100x — Data Link

[Graphs showing throughput and per-packet one-way delay for different flows, with statistics on mean values provided.]
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-26 19:58:11  
End at: 2018-07-26 19:58:41  
Local clock offset: -0.11 ms  
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2018-07-27 01:45:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 113.35 Mbit/s  
95th percentile per-packet one-way delay: 53.288 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 20.24 Mbit/s  
95th percentile per-packet one-way delay: 53.691 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 29.77 Mbit/s  
95th percentile per-packet one-way delay: 53.278 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 220.56 Mbit/s  
95th percentile per-packet one-way delay: 50.956 ms  
Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-26 20:22:40
End at: 2018-07-26 20:23:10
Local clock offset: -0.26 ms
Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.08 Mbit/s
95th percentile per-packet one-way delay: 53.702 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 53.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 53.733 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.42 Mbit/s
95th percentile per-packet one-way delay: 53.659 ms
Loss rate: 0.00%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-26 20:47:30
End at: 2018-07-26 20:48:00
Local clock offset: 0.013 ms
Remote clock offset: 0.158 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 270.95 Mbit/s
  95th percentile per-packet one-way delay: 55.988 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 83.85 Mbit/s
  95th percentile per-packet one-way delay: 55.194 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 237.52 Mbit/s
  95th percentile per-packet one-way delay: 55.919 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 86.55 Mbit/s
  95th percentile per-packet one-way delay: 57.547 ms
  Loss rate: 0.01%
Run 7: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 83.84 Mib/s)
- Flow 1 egress (mean 83.85 Mib/s)
- Flow 2 ingress (mean 237.56 Mib/s)
- Flow 2 egress (mean 237.52 Mib/s)
- Flow 3 ingress (mean 86.58 Mib/s)
- Flow 3 egress (mean 86.55 Mib/s)
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-26 21:12:26
End at: 2018-07-26 21:12:56
Local clock offset: -0.148 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.53 Mbit/s
95th percentile per-packet one-way delay: 53.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 53.681 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 53.616 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 250.01 Mbit/s
95th percentile per-packet one-way delay: 53.642 ms
Loss rate: 0.00%
Run 8: Report of TaoVA-100x — Data Link

![Graphs showing data traffic and delay over time for different flows.]

- Flow 1 ingress (mean 52.91 Mbit/s)
- Flow 1 egress (mean 52.91 Mbit/s)
- Flow 2 ingress (mean 12.88 Mbit/s)
- Flow 2 egress (mean 12.88 Mbit/s)
- Flow 3 ingress (mean 249.92 Mbit/s)
- Flow 3 egress (mean 260.01 Mbit/s)
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-26 21:37:17
End at: 2018-07-26 21:37:47
Local clock offset: -0.051 ms
Remote clock offset: -1.328 ms

# Below is generated by plot.py at 2018-07-27 01:45:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.72 Mbit/s
95th percentile per-packet one-way delay: 52.056 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 113.64 Mbit/s
95th percentile per-packet one-way delay: 52.063 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.73 Mbit/s
95th percentile per-packet one-way delay: 52.143 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 51.995 ms
Loss rate: 0.00%
Run 9: Report of TaoVA-100x — Data Link

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

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 113.64 Mbit/s)
Flow 1 egress (mean 113.64 Mbit/s)
Flow 2 ingress (mean 20.73 Mbit/s)
Flow 2 egress (mean 20.73 Mbit/s)
Flow 3 ingress (mean 91.13 Mbit/s)
Flow 3 egress (mean 91.14 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 52.06 ms)
Flow 2 (95th percentile 52.14 ms)
Flow 3 (95th percentile 51.99 ms)
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-26 22:02:14
End at: 2018-07-26 22:02:44
Local clock offset: -0.055 ms
Remote clock offset: 0.145 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.28 Mbit/s
95th percentile per-packet one-way delay: 53.990 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 132.40 Mbit/s
95th percentile per-packet one-way delay: 53.754 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 80.61 Mbit/s
95th percentile per-packet one-way delay: 53.846 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 244.47 Mbit/s
95th percentile per-packet one-way delay: 54.545 ms
Loss rate: 0.03%
Run 10: Report of TaoVA-100x — Data Link

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

**Graph Description:**
- **Throughput (Mbps):**
  - Flow 1 ingress (mean 132.41 Mbps)
  - Flow 1 egress (mean 132.40 Mbps)
  - Flow 2 ingress (mean 80.62 Mbps)
  - Flow 2 egress (mean 80.61 Mbps)
  - Flow 3 ingress (mean 244.48 Mbps)
  - Flow 3 egress (mean 244.47 Mbps)
- **Per-packet round-trip delay (ms):**
  - Flow 1 (95th percentile 53.75 ms)
  - Flow 2 (95th percentile 53.85 ms)
  - Flow 3 (95th percentile 54.55 ms)
Run 1: Statistics of TCP Vegas

End at: 2018-07-26 18:27:52
Local clock offset: 0.117 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.66 Mbit/s
95th percentile per-packet one-way delay: 54.414 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 67.76 Mbit/s
95th percentile per-packet one-way delay: 54.478 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 132.94 Mbit/s
95th percentile per-packet one-way delay: 54.293 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 58.32 Mbit/s
95th percentile per-packet one-way delay: 54.819 ms
Loss rate: 0.15%
Run 1: Report of TCP Vegas — Data Link

![Throughput Graph]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 67.70 Mbit/s) — Flow 1 egress (mean 67.76 Mbit/s)
Flow 2 ingress (mean 132.96 Mbit/s) — Flow 2 egress (mean 132.94 Mbit/s)
Flow 3 ingress (mean 58.30 Mbit/s) — Flow 3 egress (mean 58.32 Mbit/s)

![Delay Histogram]

Delay (ms)

Time (s)

Flow 1 (95th percentile 54.48 ms) — Flow 2 (95th percentile 54.29 ms) — Flow 3 (95th percentile 54.82 ms)
Run 2: Statistics of TCP Vegas

Start at: 2018-07-26 18:51:59
End at: 2018-07-26 18:52:29
Local clock offset: 0.136 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 150.86 Mbit/s
95th percentile per-packet one-way delay: 54.648 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 67.68 Mbit/s
95th percentile per-packet one-way delay: 55.271 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.91 Mbit/s
95th percentile per-packet one-way delay: 54.816 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 118.69 Mbit/s
95th percentile per-packet one-way delay: 53.948 ms
Loss rate: 0.00%
Run 2: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 67.68 Mbit/s)
- Flow 1 egress (mean 67.68 Mbit/s)
- Flow 2 ingress (mean 66.00 Mbit/s)
- Flow 2 egress (mean 65.91 Mbit/s)
- Flow 3 ingress (mean 118.69 Mbit/s)
- Flow 3 egress (mean 118.69 Mbit/s)
Run 3: Statistics of TCP Vegas

Start at: 2018-07-26 19:17:09
End at: 2018-07-26 19:17:39
Local clock offset: -0.069 ms
Remote clock offset: -1.247 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.12 Mbit/s
95th percentile per-packet one-way delay: 53.145 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 51.09 Mbit/s
95th percentile per-packet one-way delay: 53.000 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.94 Mbit/s
95th percentile per-packet one-way delay: 53.289 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 140.85 Mbit/s
95th percentile per-packet one-way delay: 53.255 ms
Loss rate: 0.03%
Run 3: Report of TCP Vegas — Data Link

![Graph showing network performance metrics over time for different flows.]
Run 4: Statistics of TCP Vegas

Start at: 2018-07-26 19:41:56
End at: 2018-07-26 19:42:26
Local clock offset: 0.039 ms
Remote clock offset: -1.369 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.33 Mbit/s
95th percentile per-packet one-way delay: 52.166 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.24 Mbit/s
95th percentile per-packet one-way delay: 52.090 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 52.246 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.77 Mbit/s
95th percentile per-packet one-way delay: 52.138 ms
Loss rate: 0.00%
Run 4: Report of TCP Vegas — Data Link

![Graph of Throughput vs Time](image1)

- Flow 1 ingress (mean 61.24 Mbit/s)
- Flow 1 egress (mean 61.24 Mbit/s)
- Flow 2 ingress (mean 78.15 Mbit/s)
- Flow 2 egress (mean 78.16 Mbit/s)
- Flow 3 ingress (mean 63.77 Mbit/s)
- Flow 3 egress (mean 63.77 Mbit/s)

![Graph of Per-packet End-to-End Delay vs Time](image2)

- Flow 1 (95th percentile 52.09 ms)
- Flow 2 (95th percentile 52.25 ms)
- Flow 3 (95th percentile 52.14 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-07-26 20:06:11
End at: 2018-07-26 20:06:41
Local clock offset: -0.145 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.41 Mbit/s
95th percentile per-packet one-way delay: 54.010 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.68 Mbit/s
95th percentile per-packet one-way delay: 53.755 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.05 Mbit/s
95th percentile per-packet one-way delay: 54.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 54.688 ms
Loss rate: 0.00%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-07-26 20:30:54
End at: 2018-07-26 20:31:24
Local clock offset: -0.002 ms
Remote clock offset: -0.172 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.05 Mbit/s
95th percentile per-packet one-way delay: 54.048 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 105.31 Mbit/s
95th percentile per-packet one-way delay: 53.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 54.324 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.92 Mbit/s
95th percentile per-packet one-way delay: 53.941 ms
Loss rate: 0.06%
Run 6: Report of TCP Vegas — Data Link

![Graphs showing throughput and per-packet round-trip time for three flows.]

**Throughput (Mbps):**
- Blue dashed line: Flow 1 ingress (mean 105.33 Mbps)
- Blue solid line: Flow 1 egress (mean 105.31 Mbps)
- Green dashed line: Flow 2 ingress (mean 41.50 Mbps)
- Green solid line: Flow 2 egress (mean 41.49 Mbps)
- Red dashed line: Flow 3 ingress (mean 133.60 Mbps)
- Red solid line: Flow 3 egress (mean 132.92 Mbps)

**Per-packet round-trip time (ms):**
- Blue line: Flow 1 (95th percentile 53.97 ms)
- Green line: Flow 2 (95th percentile 54.32 ms)
- Red line: Flow 3 (95th percentile 53.94 ms)
Run 7: Statistics of TCP Vegas

End at: 2018-07-26 20:56:16
Local clock offset: -0.023 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.68 Mbit/s
95th percentile per-packet one-way delay: 54.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 107.42 Mbit/s
95th percentile per-packet one-way delay: 54.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.23 Mbit/s
95th percentile per-packet one-way delay: 54.418 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.48 Mbit/s
95th percentile per-packet one-way delay: 54.789 ms
Loss rate: 0.00%
Run 7: Report of TCP Vegas — Data Link

![Throughput and Per-packet one-way delay graphs](image-url)
Run 8: Statistics of TCP Vegas

Start at: 2018-07-26 21:20:38
End at: 2018-07-26 21:21:08
Local clock offset: 0.002 ms
Remote clock offset: -0.343 ms

# Below is generated by plot.py at 2018-07-27 01:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.12 Mbit/s
95th percentile per-packet one-way delay: 53.954 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.32 Mbit/s
95th percentile per-packet one-way delay: 54.088 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.84 Mbit/s
95th percentile per-packet one-way delay: 53.167 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 86.23 Mbit/s
95th percentile per-packet one-way delay: 52.017 ms
Loss rate: 0.00%
Run 8: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 132.30 Mbit/s)
- Flow 1 egress (mean 132.32 Mbit/s)
- Flow 2 ingress (mean 31.84 Mbit/s)
- Flow 2 egress (mean 31.84 Mbit/s)
- Flow 3 ingress (mean 86.23 Mbit/s)
- Flow 3 egress (mean 86.23 Mbit/s)

![Graph showing per-packet end-to-end delay over time for different flows.](image)

- Flow 1 (95th percentile 54.09 ms)
- Flow 2 (95th percentile 53.17 ms)
- Flow 3 (95th percentile 52.02 ms)
Run 9: Statistics of TCP Vegas

Start at: 2018-07-26 21:45:37
End at: 2018-07-26 21:46:07
Local clock offset: 0.043 ms
Remote clock offset: 0.314 ms

# Below is generated by plot.py at 2018-07-27 01:48:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 247.32 Mbit/s
  95th percentile per-packet one-way delay: 54.532 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 178.39 Mbit/s
  95th percentile per-packet one-way delay: 54.497 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 75.90 Mbit/s
  95th percentile per-packet one-way delay: 54.426 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 55.14 Mbit/s
  95th percentile per-packet one-way delay: 56.391 ms
  Loss rate: 0.00%
Run 9: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 178.40 Mbit/s)
- Flow 1 egress (mean 178.39 Mbit/s)
- Flow 2 ingress (mean 75.91 Mbit/s)
- Flow 2 egress (mean 75.90 Mbit/s)
- Flow 3 ingress (mean 55.15 Mbit/s)
- Flow 3 egress (mean 55.14 Mbit/s)

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

- Flow 1 (95th percentile 54.50 ms)
- Flow 2 (95th percentile 54.43 ms)
- Flow 3 (95th percentile 56.39 ms)

281
Run 10: Statistics of TCP Vegas

Start at: 2018-07-26 22:10:27
End at: 2018-07-26 22:10:57
Local clock offset: 0.083 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-27 01:48:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.22 Mbit/s
95th percentile per-packet one-way delay: 60.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.42 Mbit/s
95th percentile per-packet one-way delay: 58.563 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.57 Mbit/s
95th percentile per-packet one-way delay: 59.193 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.52 Mbit/s
95th percentile per-packet one-way delay: 60.936 ms
Loss rate: 0.01%
Run 10: Report of TCP Vegas — Data Link

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

Legend:
- Flow 1 ingress (mean 80.43 Mbit/s)
- Flow 1 egress (mean 80.42 Mbit/s)
- Flow 2 ingress (mean 62.59 Mbit/s)
- Flow 2 egress (mean 62.57 Mbit/s)
- Flow 3 ingress (mean 205.56 Mbit/s)
- Flow 3 egress (mean 205.52 Mbit/s)

Throughput (Mbps) vs Time (s)

Per-packet one-way delay (ms) vs Time (s)
Run 1: Statistics of Verus

Start at: 2018-07-26 18:20:33
End at: 2018-07-26 18:21:03
Local clock offset: -0.064 ms
Remote clock offset: 1.44 ms

# Below is generated by plot.py at 2018-07-27 01:51:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.93 Mbit/s
95th percentile per-packet one-way delay: 115.653 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 184.34 Mbit/s
95th percentile per-packet one-way delay: 106.923 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 194.57 Mbit/s
95th percentile per-packet one-way delay: 115.335 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 162.31 Mbit/s
95th percentile per-packet one-way delay: 159.594 ms
Loss rate: 1.10%
Run 1: Report of Verus — Data Link
Run 2: Statistics of Verus

Start at: 2018-07-26 18:45:12
End at: 2018-07-26 18:45:42
Local clock offset: -0.107 ms
Remote clock offset: -1.166 ms

# Below is generated by plot.py at 2018-07-27 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.77 Mbit/s
95th percentile per-packet one-way delay: 125.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 206.41 Mbit/s
95th percentile per-packet one-way delay: 104.674 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 166.93 Mbit/s
95th percentile per-packet one-way delay: 144.237 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.76 Mbit/s
95th percentile per-packet one-way delay: 131.863 ms
Loss rate: 0.00%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-07-26 19:10:26
End at: 2018-07-26 19:10:56
Local clock offset: -0.231 ms
Remote clock offset: 0.122 ms

# Below is generated by plot.py at 2018-07-27 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.43 Mbit/s
95th percentile per-packet one-way delay: 126.696 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 218.43 Mbit/s
95th percentile per-packet one-way delay: 109.336 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 164.73 Mbit/s
95th percentile per-packet one-way delay: 142.090 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 110.11 Mbit/s
95th percentile per-packet one-way delay: 153.359 ms
Loss rate: 0.82%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-07-26 19:35:05
End at: 2018-07-26 19:35:35
Local clock offset: -0.14 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-27 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.30 Mbit/s
95th percentile per-packet one-way delay: 157.442 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 226.14 Mbit/s
95th percentile per-packet one-way delay: 134.079 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 175.78 Mbit/s
95th percentile per-packet one-way delay: 184.013 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 41.07 Mbit/s
95th percentile per-packet one-way delay: 140.850 ms
Loss rate: 0.83%
Run 4: Report of Verus — Data Link

![Graph showing data link throughput and per-packet one-way delay over time.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 226.63 Mbps)
  - Flow 1 egress (mean 226.14 Mbps)
  - Flow 2 ingress (mean 178.82 Mbps)
  - Flow 2 egress (mean 175.78 Mbps)
  - Flow 3 ingress (mean 40.96 Mbps)
  - Flow 3 egress (mean 41.07 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 134.08 ms)
  - Flow 2 (95th percentile 184.01 ms)
  - Flow 3 (95th percentile 140.85 ms)
Run 5: Statistics of Verus

Start at: 2018-07-26 19:59:29
End at: 2018-07-26 19:59:59
Local clock offset: -0.12 ms
Remote clock offset: 0.021 ms

# Below is generated by plot.py at 2018-07-27 01:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.98 Mbit/s
95th percentile per-packet one-way delay: 155.442 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 176.24 Mbit/s
95th percentile per-packet one-way delay: 111.924 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 226.89 Mbit/s
95th percentile per-packet one-way delay: 176.070 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.72 Mbit/s
95th percentile per-packet one-way delay: 151.353 ms
Loss rate: 0.00%
Run 5: Report of Verus — Data Link
Run 6: Statistics of Verus

End at: 2018-07-26 20:24:28
Local clock offset: -0.1 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2018-07-27 01:55:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.36 Mbit/s
95th percentile per-packet one-way delay: 124.751 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 215.69 Mbit/s
95th percentile per-packet one-way delay: 115.686 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 205.03 Mbit/s
95th percentile per-packet one-way delay: 125.202 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 99.27 Mbit/s
95th percentile per-packet one-way delay: 167.365 ms
Loss rate: 0.38%
Run 6: Report of Verus — Data Link
Run 7: Statistics of Verus

Start at: 2018-07-26 20:49:01
End at: 2018-07-26 20:49:31
Local clock offset: 0.12 ms
Remote clock offset: -0.35 ms

# Below is generated by plot.py at 2018-07-27 01:55:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 358.73 Mbit/s
  95th percentile per-packet one-way delay: 115.181 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 239.20 Mbit/s
  95th percentile per-packet one-way delay: 111.403 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 128.82 Mbit/s
  95th percentile per-packet one-way delay: 115.916 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 103.66 Mbit/s
  95th percentile per-packet one-way delay: 132.378 ms
  Loss rate: 0.00%
Run 7: Report of Verus — Data Link
Run 8: Statistics of Verus

End at: 2018-07-26 21:14:17
Local clock offset: -0.105 ms
Remote clock offset: 0.045 ms

# Below is generated by plot.py at 2018-07-27 01:56:27
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 359.94 Mbit/s
   95th percentile per-packet one-way delay: 136.713 ms
   Loss rate: 0.15%
-- Flow 1:
   Average throughput: 201.67 Mbit/s
   95th percentile per-packet one-way delay: 114.175 ms
   Loss rate: 0.25%
-- Flow 2:
   Average throughput: 174.61 Mbit/s
   95th percentile per-packet one-way delay: 119.280 ms
   Loss rate: 0.01%
-- Flow 3:
   Average throughput: 145.94 Mbit/s
   95th percentile per-packet one-way delay: 168.573 ms
   Loss rate: 0.00%
Run 8: Report of Verus — Data Link
Run 9: Statistics of Verus

Start at: 2018-07-26 21:38:39
End at: 2018-07-26 21:39:09
Local clock offset: -0.053 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2018-07-27 01:59:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 372.79 Mbit/s
  95th percentile per-packet one-way delay: 101.763 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 228.27 Mbit/s
  95th percentile per-packet one-way delay: 100.755 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 163.60 Mbit/s
  95th percentile per-packet one-way delay: 102.455 ms
  Loss rate: 0.28%
-- Flow 3:
  Average throughput: 110.56 Mbit/s
  95th percentile per-packet one-way delay: 102.733 ms
  Loss rate: 0.32%
Run 9: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 227.80 Mbit/s)
- Flow 1 egress (mean 228.27 Mbit/s)
- Flow 2 ingress (mean 164.06 Mbit/s)
- Flow 2 egress (mean 163.60 Mbit/s)
- Flow 3 ingress (mean 111.21 Mbit/s)
- Flow 3 egress (mean 110.56 Mbit/s)
Run 10: Statistics of Verus

Start at: 2018-07-26 22:03:46
End at: 2018-07-26 22:04:16
Local clock offset: 0.031 ms
Remote clock offset: -0.348 ms

# Below is generated by plot.py at 2018-07-27 01:59:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 346.02 Mbit/s
  95th percentile per-packet one-way delay: 180.594 ms
  Loss rate: 1.15%
-- Flow 1:
  Average throughput: 229.52 Mbit/s
  95th percentile per-packet one-way delay: 181.592 ms
  Loss rate: 1.04%
-- Flow 2:
  Average throughput: 130.87 Mbit/s
  95th percentile per-packet one-way delay: 188.052 ms
  Loss rate: 1.83%
-- Flow 3:
  Average throughput: 90.64 Mbit/s
  95th percentile per-packet one-way delay: 139.378 ms
  Loss rate: 0.00%
Run 10: Report of Verus — Data Link

![Graph showing network performance metrics](image)

**Throughput (Mbps) vs. Time (s):**
- Flow 1 ingress (mean 231.96 Mbps)
- Flow 1 egress (mean 229.52 Mbps)
- Flow 2 ingress (mean 133.52 Mbps)
- Flow 2 egress (mean 130.87 Mbps)
- Flow 3 ingress (mean 91.13 Mbps)
- Flow 3 egress (mean 90.64 Mbps)

**Per-packet one-way delay (ms) vs. Time (s):**
- Flow 1 (95th percentile 181.59 ms)
- Flow 2 (95th percentile 188.05 ms)
- Flow 3 (95th percentile 139.38 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-26 18:40:37
End at: 2018-07-26 18:41:07
Local clock offset: -0.429 ms
Remote clock offset: -0.222 ms

# Below is generated by plot.py at 2018-07-27 02:05:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.68 Mbit/s
95th percentile per-packet one-way delay: 56.329 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 318.99 Mbit/s
95th percentile per-packet one-way delay: 52.143 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 283.25 Mbit/s
95th percentile per-packet one-way delay: 58.185 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 172.61 Mbit/s
95th percentile per-packet one-way delay: 51.443 ms
Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 318.99 Mbps)
- Flow 1 egress (mean 318.99 Mbps)
- Flow 2 ingress (mean 283.28 Mbps)
- Flow 2 egress (mean 283.23 Mbps)
- Flow 3 ingress (mean 172.61 Mbps)
- Flow 3 egress (mean 172.61 Mbps)

**Per-packet end-to-end delay (ms):**
- Flow 1 (95th percentile 52.14 ms)
- Flow 2 (95th percentile 58.19 ms)
- Flow 3 (95th percentile 51.44 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-26 19:05:29
End at: 2018-07-26 19:05:59
Local clock offset: -0.048 ms
Remote clock offset: -1.232 ms

# Below is generated by plot.py at 2018-07-27 02:05:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 524.37 Mbit/s
  95th percentile per-packet one-way delay: 52.566 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 336.45 Mbit/s
  95th percentile per-packet one-way delay: 52.378 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 259.47 Mbit/s
  95th percentile per-packet one-way delay: 53.349 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 46.83 Mbit/s
  95th percentile per-packet one-way delay: 52.410 ms
  Loss rate: 0.02%
Run 2: Report of PCC-Vivace — Data Link

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

Legend:
- Flow 1 ingress (mean 336.41 Mbit/s)
- Flow 1 egress (mean 336.45 Mbit/s)
- Flow 2 ingress (mean 259.43 Mbit/s)
- Flow 2 egress (mean 259.47 Mbit/s)
- Flow 3 ingress (mean 46.87 Mbit/s)
- Flow 3 egress (mean 46.83 Mbit/s)
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-26 19:30:26
End at: 2018-07-26 19:30:56
Local clock offset: -0.067 ms
Remote clock offset: -1.269 ms

# Below is generated by plot.py at 2018-07-27 02:07:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 595.03 Mbit/s
  95th percentile per-packet one-way delay: 55.844 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 327.16 Mbit/s
  95th percentile per-packet one-way delay: 53.970 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 268.42 Mbit/s
  95th percentile per-packet one-way delay: 53.917 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 270.67 Mbit/s
  95th percentile per-packet one-way delay: 83.505 ms
  Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 327.16 Mbit/s)
- Flow 1 egress (mean 327.16 Mbit/s)
- Flow 2 ingress (mean 268.44 Mbit/s)
- Flow 2 egress (mean 268.42 Mbit/s)
- Flow 3 ingress (mean 270.77 Mbit/s)
- Flow 3 egress (mean 270.67 Mbit/s)

- Flow 1 (95th percentile 53.97 ms)
- Flow 2 (95th percentile 53.92 ms)
- Flow 3 (95th percentile 83.50 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-26 19:54:55
Local clock offset: -0.082 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-27 02:07:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.03 Mbit/s
95th percentile per-packet one-way delay: 55.029 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 340.25 Mbit/s
95th percentile per-packet one-way delay: 56.003 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 266.58 Mbit/s
95th percentile per-packet one-way delay: 54.196 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.69 Mbit/s
95th percentile per-packet one-way delay: 53.429 ms
Loss rate: 0.05%
Run 4: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 340.28 Mbit/s)
- Flow 1 egress (mean 340.25 Mbit/s)
- Flow 2 ingress (mean 266.63 Mbit/s)
- Flow 2 egress (mean 266.58 Mbit/s)
- Flow 3 ingress (mean 34.69 Mbit/s)
- Flow 3 egress (mean 34.69 Mbit/s)
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-26 20:19:29
End at: 2018-07-26 20:19:59
Local clock offset: ~0.031 ms
Remote clock offset: ~0.102 ms

# Below is generated by plot.py at 2018-07-27 02:07:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 435.91 Mbit/s
  95th percentile per-packet one-way delay: 53.290 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 271.06 Mbit/s
  95th percentile per-packet one-way delay: 51.146 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 218.83 Mbit/s
  95th percentile per-packet one-way delay: 53.600 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 58.71 Mbit/s
  95th percentile per-packet one-way delay: 53.400 ms
  Loss rate: 0.00%
Run 5: Report of PCC-Vivace — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 271.06 Mbps)
- Flow 1 egress (mean 271.06 Mbps)
- Flow 2 ingress (mean 218.82 Mbps)
- Flow 2 egress (mean 218.83 Mbps)
- Flow 3 ingress (mean 58.71 Mbps)
- Flow 3 egress (mean 58.71 Mbps)

**Packet Loss Delay (ms):**
- Flow 1 (95th percentile 51.15 ms)
- Flow 2 (95th percentile 53.60 ms)
- Flow 3 (95th percentile 53.40 ms)
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-26 20:44:18
End at: 2018-07-26 20:44:48
Local clock offset: 0.072 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-27 02:07:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.90 Mbit/s
95th percentile per-packet one-way delay: 53.635 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 295.77 Mbit/s
95th percentile per-packet one-way delay: 53.675 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 227.35 Mbit/s
95th percentile per-packet one-way delay: 53.570 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 69.73 Mbit/s
95th percentile per-packet one-way delay: 53.090 ms
Loss rate: 0.06%
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: 2018-07-26 21:09:12
End at: 2018-07-26 21:09:42
Local clock offset: -0.199 ms
Remote clock offset: -0.239 ms

# Below is generated by plot.py at 2018-07-27 02:09:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 492.97 Mbit/s
95th percentile per-packet one-way delay: 54.201 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 309.99 Mbit/s
95th percentile per-packet one-way delay: 54.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 250.35 Mbit/s
95th percentile per-packet one-way delay: 54.479 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.11 Mbit/s
95th percentile per-packet one-way delay: 53.588 ms
Loss rate: 0.04%
Run 7: Report of PCC-Vivace — Data Link
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-26 21:34:00
End at: 2018-07-26 21:34:30
Local clock offset: -0.13 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2018-07-27 02:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.54 Mbit/s
95th percentile per-packet one-way delay: 54.353 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 315.57 Mbit/s
95th percentile per-packet one-way delay: 54.200 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 255.91 Mbit/s
95th percentile per-packet one-way delay: 54.624 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 105.60 Mbit/s
95th percentile per-packet one-way delay: 53.836 ms
Loss rate: 0.00%
Run 8: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 315.57 Mbit/s) — Flow 1 egress (mean 315.57 Mbit/s)
Flow 2 ingress (mean 255.90 Mbit/s) — Flow 2 egress (mean 255.91 Mbit/s)
Flow 3 ingress (mean 105.59 Mbit/s) — Flow 3 egress (mean 105.60 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 54.20 ms) — Flow 2 (95th percentile 54.62 ms) — Flow 3 (95th percentile 53.84 ms)
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-26 21:58:57
End at: 2018-07-26 21:59:27
Local clock offset: -0.052 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-07-27 02:10:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.17 Mbit/s
95th percentile per-packet one-way delay: 53.815 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 324.39 Mbit/s
95th percentile per-packet one-way delay: 53.588 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 260.60 Mbit/s
95th percentile per-packet one-way delay: 54.360 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 162.28 Mbit/s
95th percentile per-packet one-way delay: 54.795 ms
Loss rate: 0.00%
Run 9: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 324.39 Mbps)
- Flow 1 egress (mean 324.39 Mbps)
- Flow 2 ingress (mean 260.59 Mbps)
- Flow 2 egress (mean 260.59 Mbps)
- Flow 3 ingress (mean 162.27 Mbps)
- Flow 3 egress (mean 162.28 Mbps)

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

- Flow 1 (95th percentile 53.59 ms)
- Flow 2 (95th percentile 54.36 ms)
- Flow 3 (95th percentile 54.80 ms)
Run 10: Statistics of PCC-Vivace

End at: 2018-07-26 22:24:17
Local clock offset: 0.063 ms
Remote clock offset: 0.099 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 541.13 Mbit/s
95th percentile per-packet one-way delay: 54.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 322.09 Mbit/s
95th percentile per-packet one-way delay: 54.110 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 301.43 Mbit/s
95th percentile per-packet one-way delay: 54.138 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.39 Mbit/s
95th percentile per-packet one-way delay: 53.846 ms
Loss rate: 0.00%
Run 10: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2018-07-26 18:24:40
End at: 2018-07-26 18:25:10
Local clock offset: 0.129 ms
Remote clock offset: -1.39 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.37 Mbit/s
  95th percentile per-packet one-way delay: 52.201 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.29 Mbit/s
  95th percentile per-packet one-way delay: 52.199 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.55 Mbit/s
  95th percentile per-packet one-way delay: 52.213 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.63 Mbit/s
  95th percentile per-packet one-way delay: 52.107 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.29 Mbit/s)
- Flow 1 egress (mean 2.29 Mbit/s)
- Flow 2 ingress (mean 1.55 Mbit/s)
- Flow 2 egress (mean 1.55 Mbit/s)
- Flow 3 ingress (mean 0.63 Mbit/s)
- Flow 3 egress (mean 0.63 Mbit/s)

![Graph showing packet loss per flow.]

- Flow 1 (95th percentile 52.20 ms)
- Flow 2 (95th percentile 52.21 ms)
- Flow 3 (95th percentile 52.11 ms)
Run 2: Statistics of WebRTC media

End at: 2018-07-26 18:49:53
Local clock offset: -0.111 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 53.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 53.641 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 53.671 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 53.719 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

**Figure 1:** Throughput (Mbps) over time (s).

**Figure 2:** Per-packet one-way delay (ms) over time (s).

Legend:
- Flow 1 ingress (mean 2.07 Mbps)
- Flow 1 egress (mean 2.07 Mbps)
- Flow 2 ingress (mean 1.31 Mbps)
- Flow 2 egress (mean 1.31 Mbps)
- Flow 3 ingress (mean 0.52 Mbps)
- Flow 3 egress (mean 0.52 Mbps)

Legend for delay:
- Flow 1 (95th percentile 53.64 ms)
- Flow 2 (95th percentile 53.67 ms)
- Flow 3 (95th percentile 53.72 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-07-26 19:14:32
End at: 2018-07-26 19:15:02
Local clock offset: -0.114 ms
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 53.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 53.896 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 53.546 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 50.808 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

[Graph showing throughput and packet delay over time for different flows.]
Run 4: Statistics of WebRTC media

Start at: 2018-07-26 19:39:18
End at: 2018-07-26 19:39:48
Local clock offset: 0.103 ms
Remote clock offset: 1.196 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 54.895 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 54.921 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 54.823 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 54.453 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

[Graph 1: Throughput (Mbps)]
- Flow 1 ingress (mean 2.08 Mbps)
- Flow 1 egress (mean 2.08 Mbps)
- Flow 2 ingress (mean 1.32 Mbps)
- Flow 2 egress (mean 1.32 Mbps)
- Flow 3 ingress (mean 0.54 Mbps)
- Flow 3 egress (mean 0.54 Mbps)

[Graph 2: Per-packet one-way delay (ms)]
- Flow 1 (95th percentile 54.92 ms)
- Flow 2 (95th percentile 54.82 ms)
- Flow 3 (95th percentile 54.45 ms)
Run 5: Statistics of WebRTC media

Start at: 2018-07-26 20:03:35
End at: 2018-07-26 20:04:05
Local clock offset: -0.087 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 53.519 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 53.548 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 53.177 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 53.323 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Flow 1 ingress (mean 2.03 Mbit/s)  Flow 1 egress (mean 2.03 Mbit/s)
Flow 2 ingress (mean 1.13 Mbit/s)  Flow 2 egress (mean 1.13 Mbit/s)
Flow 3 ingress (mean 0.54 Mbit/s)  Flow 3 egress (mean 0.54 Mbit/s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 53.55 ms)  Flow 2 (95th percentile 53.18 ms)  Flow 3 (95th percentile 53.32 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-07-26 20:28:15
End at: 2018-07-26 20:28:45
Local clock offset: 0.02 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.86 Mbit/s
  95th percentile per-packet one-way delay: 53.731 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 53.757 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.30 Mbit/s
  95th percentile per-packet one-way delay: 53.434 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.55 Mbit/s
  95th percentile per-packet one-way delay: 50.697 ms
  Loss rate: 0.00%
Run 6: Report of WebRTC media — Data Link

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

Throughput (Mbps):
- Flow 1 ingress (mean 2.02 Mbps)
- Flow 1 egress (mean 2.02 Mbps)
- Flow 2 ingress (mean 1.30 Mbps)
- Flow 2 egress (mean 1.30 Mbps)
- Flow 3 ingress (mean 0.55 Mbps)
- Flow 3 egress (mean 0.55 Mbps)

Packet delay (ms):
- Flow 1 (95th percentile 53.76 ms)
- Flow 2 (95th percentile 53.43 ms)
- Flow 3 (95th percentile 50.70 ms)
Run 7: Statistics of WebRTC media

Start at: 2018-07-26 20:53:10
End at: 2018-07-26 20:53:40
Local clock offset: -0.047 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 53.851 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 53.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 53.527 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 53.620 ms
Loss rate: 0.00%
Run 7: Report of WebRTC media — Data Link

---

**Throughput (Mbps)**

- Flow 1 ingress (mean 2.09 Mbps)
- Flow 1 egress (mean 2.09 Mbps)
- Flow 2 ingress (mean 1.12 Mbps)
- Flow 2 egress (mean 1.12 Mbps)
- Flow 3 ingress (mean 0.54 Mbps)
- Flow 3 egress (mean 0.54 Mbps)

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

- Flow 1 (95th percentile 53.87 ms)
- Flow 2 (95th percentile 53.53 ms)
- Flow 3 (95th percentile 53.62 ms)
Run 8: Statistics of WebRTC media

Start at: 2018-07-26 21:18:00
End at: 2018-07-26 21:18:30
Local clock offset: 0.014 ms
Remote clock offset: -1.51 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 52.074 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 52.105 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 51.819 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 51.976 ms
Loss rate: 0.00%
Run 8: Report of WebRTC media — Data Link

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

Throughput (Mbps):
- Flow 1 ingress (mean 2.13 Mbps)
- Flow 1 egress (mean 2.13 Mbps)
- Flow 2 ingress (mean 1.34 Mbps)
- Flow 2 egress (mean 1.34 Mbps)
- Flow 3 ingress (mean 0.53 Mbps)
- Flow 3 egress (mean 0.53 Mbps)

Per-packet one-way delay (ms):
- Flow 1 (95th percentile 52.10 ms)
- Flow 2 (95th percentile 51.82 ms)
- Flow 3 (95th percentile 51.98 ms)
Run 9: Statistics of WebRTC media

End at: 2018-07-26 21:43:25
Local clock offset: -0.025 ms
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 53.190 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 53.209 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 50.613 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 53.133 ms
Loss rate: 0.00%
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

Start at: 2018-07-26 22:07:50
End at: 2018-07-26 22:08:20
Local clock offset: -0.169 ms
Remote clock offset: 0.102 ms

# Below is generated by plot.py at 2018-07-27 02:10:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 54.088 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 54.112 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 50.707 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 50.868 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link