Pantheon Report

Data path: GCE Iowa Ethernet (remote) → GCE London Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
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 @ d47f4fa1b454a5e3c0537115c5a28436d6d4b834
third_party/fillp-sheep @ daed0c84f98531712514b223f43ec6901114ffe
third_party/genericCC @ d0153f8e594a88e939b032143cedbdf8e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdfbf90c077e64d
third_party/libutp @ b3465b92e2826f2b179eaaab4a906ce6bb7c3f
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b2cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d6b623c091a55f8c872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab9c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3ccf42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3db
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c617800e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dd4735770d143a1fa2851
test from GCE Iowa to GCE London, 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>TCP BBR</td>
<td>10</td>
<td>178.64 157.20 127.68</td>
<td>128.68 134.25 142.03</td>
<td>0.41 0.72 1.77</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>81.38  70.27  60.61</td>
<td>56.33  57.93  59.97</td>
<td>0.20 0.69 1.28</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>182.65 133.26 56.99</td>
<td>93.35  96.79  97.07</td>
<td>0.41 1.12 3.60</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>532.75 577.21 535.35</td>
<td>252.06 243.73 207.96</td>
<td>1.02 1.13 1.96</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>560.23 572.23 530.50</td>
<td>116.33 162.52 156.73</td>
<td>0.46 0.86 1.56</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>176.68 141.75 85.64</td>
<td>75.86  80.76  87.28</td>
<td>0.32 0.50 1.15</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>32.34  22.21  9.84</td>
<td>52.28  52.41  52.21</td>
<td>0.66 1.05 2.30</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>296.15 41.65 15.12</td>
<td>158.24 157.64 156.60</td>
<td>0.75 0.99 2.44</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>219.07 113.69 29.10</td>
<td>193.83 189.26 168.37</td>
<td>4.35 4.80 5.52</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>69.05  65.14 51.72</td>
<td>50.65  50.40 50.39</td>
<td>0.34 0.53 1.16</td>
</tr>
<tr>
<td>SCReAM</td>
<td>10</td>
<td>0.22   0.22 0.22</td>
<td>50.62  50.34 50.41</td>
<td>0.27 0.61 1.09</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>7.02   6.05 6.64</td>
<td>51.37  51.25 51.34</td>
<td>0.39 0.46 1.11</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>132.20 108.81 69.58</td>
<td>53.32  55.07 56.88</td>
<td>0.24 0.44 0.33</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>131.03 88.41 79.03</td>
<td>62.30  63.82 63.76</td>
<td>0.27 0.52 1.55</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>180.31 127.26 87.00</td>
<td>178.10 188.41 211.69</td>
<td>1.09 1.19 3.60</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>270.15 221.56 120.26</td>
<td>52.52  59.24 50.63</td>
<td>0.32 0.55 1.47</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>2.00   1.32 0.50</td>
<td>50.47  50.72 54.50</td>
<td>0.35 0.70 1.49</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-07-27 08:26:22
End at: 2018-07-27 08:26:52
Local clock offset: -0.155 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-07-27 12:32:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.86 Mbit/s
95th percentile per-packet one-way delay: 133.172 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 184.02 Mbit/s
95th percentile per-packet one-way delay: 127.884 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 156.75 Mbit/s
95th percentile per-packet one-way delay: 133.370 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 125.92 Mbit/s
95th percentile per-packet one-way delay: 141.147 ms
Loss rate: 1.74%
Run 1: Report of TCP BBR — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 184.12 Mbit/s)
Flow 1 egress (mean 184.02 Mbit/s)
Flow 2 ingress (mean 157.30 Mbit/s)
Flow 2 egress (mean 156.75 Mbit/s)
Flow 3 ingress (mean 126.84 Mbit/s)
Flow 3 egress (mean 125.92 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 127.98 ms)
Flow 2 (95th percentile 133.37 ms)
Flow 3 (95th percentile 141.15 ms)
Run 2: Statistics of TCP BBR

Start at: 2018-07-27 08:50:31
End at: 2018-07-27 08:51:01
Local clock offset: 0.366 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-07-27 12:32:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.72 Mbit/s
95th percentile per-packet one-way delay: 125.983 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 181.04 Mbit/s
95th percentile per-packet one-way delay: 118.263 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 163.73 Mbit/s
95th percentile per-packet one-way delay: 126.203 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 129.46 Mbit/s
95th percentile per-packet one-way delay: 134.027 ms
Loss rate: 1.71%
Run 2: Report of TCP BBR — Data Link

![Graph showing network performance metrics over time.](image-url)
Run 3: Statistics of TCP BBR

Start at: 2018-07-27 09:14:35
End at: 2018-07-27 09:15:05
Local clock offset: -0.057 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-07-27 12:32:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.01 Mbit/s
95th percentile per-packet one-way delay: 140.732 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 172.51 Mbit/s
95th percentile per-packet one-way delay: 137.194 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 151.56 Mbit/s
95th percentile per-packet one-way delay: 140.670 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 126.42 Mbit/s
95th percentile per-packet one-way delay: 147.891 ms
Loss rate: 1.75%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1** ingress (mean 172.72 Mbit/s)
- **Flow 1** egress (mean 172.51 Mbit/s)
- **Flow 2** ingress (mean 151.83 Mbit/s)
- **Flow 2** egress (mean 151.56 Mbit/s)
- **Flow 3** ingress (mean 127.36 Mbit/s)
- **Flow 3** egress (mean 126.42 Mbit/s)

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

- **Flow 1** (95th percentile 137.19 ms)
- **Flow 2** (95th percentile 140.67 ms)
- **Flow 3** (95th percentile 147.89 ms)
Run 4: Statistics of TCP BBR

Start at: 2018-07-27 09:38:48
End at: 2018-07-27 09:39:18
Local clock offset: 0.225 ms
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2018-07-27 12:32:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.39 Mbit/s
95th percentile per-packet one-way delay: 146.875 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 174.22 Mbit/s
95th percentile per-packet one-way delay: 138.486 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 146.30 Mbit/s
95th percentile per-packet one-way delay: 145.983 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 120.73 Mbit/s
95th percentile per-packet one-way delay: 158.770 ms
Loss rate: 1.93%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2018-07-27 10:02:43
End at: 2018-07-27 10:03:13
Local clock offset: -0.11 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2018-07-27 12:32:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.90 Mbit/s
95th percentile per-packet one-way delay: 136.488 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 174.49 Mbit/s
95th percentile per-packet one-way delay: 129.005 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 161.83 Mbit/s
95th percentile per-packet one-way delay: 136.111 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 132.75 Mbit/s
95th percentile per-packet one-way delay: 143.514 ms
Loss rate: 1.66%
Run 5: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 174.64 Mbit/s)
- Flow 1 egress (mean 174.49 Mbit/s)
- Flow 2 ingress (mean 162.18 Mbit/s)
- Flow 2 egress (mean 161.83 Mbit/s)
- Flow 3 ingress (mean 133.63 Mbit/s)
- Flow 3 egress (mean 132.75 Mbit/s)
Run 6: Statistics of TCP BBR

Start at: 2018-07-27 10:26:56
End at: 2018-07-27 10:27:26
Local clock offset: 0.346 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-07-27 12:32:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.32 Mbit/s
95th percentile per-packet one-way delay: 136.375 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 177.73 Mbit/s
95th percentile per-packet one-way delay: 130.776 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 153.11 Mbit/s
95th percentile per-packet one-way delay: 136.233 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 123.55 Mbit/s
95th percentile per-packet one-way delay: 141.984 ms
Loss rate: 1.78%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

End at: 2018-07-27 10:51:25
Local clock offset: 0.286 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2018-07-27 12:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 333.60 Mbit/s
95th percentile per-packet one-way delay: 129.773 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 180.24 Mbit/s
95th percentile per-packet one-way delay: 125.974 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 161.74 Mbit/s
95th percentile per-packet one-way delay: 130.455 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 138.70 Mbit/s
95th percentile per-packet one-way delay: 135.804 ms
Loss rate: 1.91%
Run 7: Report of TCP BBR — Data Link
Run 8: Statistics of TCP BBR

Start at: 2018-07-27 11:15:01
End at: 2018-07-27 11:15:31
Local clock offset: -0.08 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-27 12:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.52 Mbit/s
95th percentile per-packet one-way delay: 151.089 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 170.25 Mbit/s
95th percentile per-packet one-way delay: 143.508 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 149.11 Mbit/s
95th percentile per-packet one-way delay: 150.816 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 118.40 Mbit/s
95th percentile per-packet one-way delay: 162.246 ms
Loss rate: 1.81%
Run 8: Report of TCP BBR — Data Link

![Graph showing throughput and packet delay for different flows over time.](image)
Run 9: Statistics of TCP BBR

End at: 2018-07-27 11:39:50
Local clock offset: -0.46 ms
Remote clock offset: -0.177 ms

# Below is generated by plot.py at 2018-07-27 12:37:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 330.34 Mbit/s
  95th percentile per-packet one-way delay: 129.929 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 183.35 Mbit/s
  95th percentile per-packet one-way delay: 125.798 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 157.33 Mbit/s
  95th percentile per-packet one-way delay: 130.499 ms
  Loss rate: 0.72%
-- Flow 3:
  Average throughput: 128.34 Mbit/s
  95th percentile per-packet one-way delay: 134.474 ms
  Loss rate: 1.79%
Run 9: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 183.32 Mbps)
- Flow 1 egress (mean 183.35 Mbps)
- Flow 2 ingress (mean 157.87 Mbps)
- Flow 2 egress (mean 157.33 Mbps)
- Flow 3 ingress (mean 129.33 Mbps)
- Flow 3 egress (mean 126.34 Mbps)
Run 10: Statistics of TCP BBR

Start at: 2018-07-27 12:03:40
End at: 2018-07-27 12:04:10
Local clock offset: -0.147 ms
Remote clock offset: -0.205 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 345.72 Mbit/s
  95th percentile per-packet one-way delay: 112.326 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 188.60 Mbit/s
  95th percentile per-packet one-way delay: 109.944 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 170.50 Mbit/s
  95th percentile per-packet one-way delay: 112.121 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 132.51 Mbit/s
  95th percentile per-packet one-way delay: 120.452 ms
  Loss rate: 1.66%
Run 10: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2018-07-27 08:25:02
End at: 2018-07-27 08:25:32
Local clock offset: 0.233 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 141.72 Mbit/s
  95th percentile per-packet one-way delay: 56.719 ms
  Loss rate: 0.29%
-- Flow 1:
  Average throughput: 89.36 Mbit/s
  95th percentile per-packet one-way delay: 56.053 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 54.08 Mbit/s
  95th percentile per-packet one-way delay: 56.586 ms
  Loss rate: 0.47%
-- Flow 3:
  Average throughput: 53.55 Mbit/s
  95th percentile per-packet one-way delay: 60.064 ms
  Loss rate: 1.32%
Run 1: Report of Copa — Data Link

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**Throughput (Mbps)**

- Flow 1 ingress (mean 89.38 Mbps)
- Flow 1 egress (mean 89.36 Mbps)
- Flow 2 ingress (mean 54.07 Mbps)
- Flow 2 egress (mean 54.08 Mbps)
- Flow 3 ingress (mean 53.71 Mbps)
- Flow 3 egress (mean 53.55 Mbps)

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

- Flow 1 (95th percentile 56.05 ms)
- Flow 2 (95th percentile 56.59 ms)
- Flow 3 (95th percentile 60.06 ms)
Run 2: Statistics of Copa

Start at: 2018-07-27 08:49:12
End at: 2018-07-27 08:49:42
Local clock offset: -0.324 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.95 Mbit/s
95th percentile per-packet one-way delay: 56.800 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 79.03 Mbit/s
95th percentile per-packet one-way delay: 55.800 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 71.29 Mbit/s
95th percentile per-packet one-way delay: 57.121 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 47.27 Mbit/s
95th percentile per-packet one-way delay: 61.146 ms
Loss rate: 0.91%
Run 2: Report of Copa — Data Link

![Throughput Graph](image)

- Flow 1 ingress (mean 79.08 Mbit/s)
- Flow 2 ingress (mean 71.64 Mbit/s)
- Flow 3 ingress (mean 47.23 Mbit/s)
- Flow 1 egress (mean 79.03 Mbit/s)
- Flow 2 egress (mean 71.29 Mbit/s)
- Flow 3 egress (mean 47.27 Mbit/s)

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

- Flow 1 (95th percentile 55.80 ms)
- Flow 2 (95th percentile 57.12 ms)
- Flow 3 (95th percentile 61.15 ms)
Run 3: Statistics of Copa

End at: 2018-07-27 09:13:44
Local clock offset: -0.036 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.60 Mbit/s
95th percentile per-packet one-way delay: 56.132 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 84.00 Mbit/s
95th percentile per-packet one-way delay: 56.134 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 67.82 Mbit/s
95th percentile per-packet one-way delay: 55.935 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 66.57 Mbit/s
95th percentile per-packet one-way delay: 56.696 ms
Loss rate: 0.00%
Run 3: Report of Copa — Data Link

[Graphs showing throughput and per-packet one-way delay over time]
Run 4: Statistics of Copa

Start at: 2018-07-27 09:37:27
End at: 2018-07-27 09:37:57
Local clock offset: -0.479 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 143.63 Mbit/s
 95th percentile per-packet one-way delay: 54.239 ms
 Loss rate: 0.69%
-- Flow 1:
 Average throughput: 73.41 Mbit/s
 95th percentile per-packet one-way delay: 54.618 ms
 Loss rate: 0.00%
-- Flow 2:
 Average throughput: 75.32 Mbit/s
 95th percentile per-packet one-way delay: 53.673 ms
 Loss rate: 1.03%
-- Flow 3:
 Average throughput: 72.37 Mbit/s
 95th percentile per-packet one-way delay: 54.552 ms
 Loss rate: 1.95%
Run 4: Report of Copa — Data Link

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

- Flow 1 ingress (mean 73.47 Mbit/s)
- Flow 1 egress (mean 73.41 Mbit/s)
- Flow 2 ingress (mean 75.72 Mbit/s)
- Flow 2 egress (mean 75.32 Mbit/s)
- Flow 3 ingress (mean 73.07 Mbit/s)
- Flow 3 egress (mean 72.37 Mbit/s)

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

- Flow 1 (95th percentile 54.62 ms)
- Flow 2 (95th percentile 53.67 ms)
- Flow 3 (95th percentile 54.55 ms)
Run 5: Statistics of Copa

Start at: 2018-07-27 10:01:24
End at: 2018-07-27 10:01:54
Local clock offset: 0.303 ms
Remote clock offset: 0.045 ms

# Below is generated by plot.py at 2018-07-27 12:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 124.05 Mbit/s
95th percentile per-packet one-way delay: 60.299 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 81.12 Mbit/s
95th percentile per-packet one-way delay: 60.167 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 35.26 Mbit/s
95th percentile per-packet one-way delay: 61.729 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 59.26 Mbit/s
95th percentile per-packet one-way delay: 58.922 ms
Loss rate: 3.14%
Run 5: Report of Copa — Data Link

![Graph showing throughput and packet delay over time for Flow 1, Flow 2, and Flow 3.](image-url)
Run 6: Statistics of Copa

End at: 2018-07-27 10:26:05
Local clock offset: -0.398 ms
Remote clock offset: 0.026 ms

# Below is generated by plot.py at 2018-07-27 12:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.58 Mbit/s
95th percentile per-packet one-way delay: 56.797 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 69.63 Mbit/s
95th percentile per-packet one-way delay: 55.887 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 56.656 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 63.82 Mbit/s
95th percentile per-packet one-way delay: 59.850 ms
Loss rate: 1.83%
Run 6: Report of Copa — Data Link

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

![Graph 2: Packet Loss vs Time](image2)
Run 7: Statistics of Copa

End at: 2018-07-27 10:50:05
Local clock offset: -0.3 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-07-27 12:41:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 142.75 Mbit/s
  95th percentile per-packet one-way delay: 61.594 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 90.37 Mbit/s
  95th percentile per-packet one-way delay: 57.981 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 40.77 Mbit/s
  95th percentile per-packet one-way delay: 64.391 ms
  Loss rate: 0.33%
-- Flow 3:
  Average throughput: 76.57 Mbit/s
  95th percentile per-packet one-way delay: 69.030 ms
  Loss rate: 1.11%
Run 7: Report of Copa — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 90.37 Mbps)
- Flow 1 egress (mean 90.37 Mbps)
- Flow 2 ingress (mean 40.70 Mbps)
- Flow 2 egress (mean 40.77 Mbps)
- Flow 3 ingress (mean 76.64 Mbps)
- Flow 3 egress (mean 76.57 Mbps)

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

- Flow 1 (95th percentile 57.98 ms)
- Flow 2 (95th percentile 64.39 ms)
- Flow 3 (95th percentile 69.03 ms)
Run 8: Statistics of Copa

End at: 2018-07-27 11:14:11
Local clock offset: 0.27 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-07-27 12:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.47 Mbit/s
95th percentile per-packet one-way delay: 57.023 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 73.36 Mbit/s
95th percentile per-packet one-way delay: 54.704 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 75.01 Mbit/s
95th percentile per-packet one-way delay: 57.364 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.00 Mbit/s
95th percentile per-packet one-way delay: 64.849 ms
Loss rate: 0.00%
Run 8: Report of Copa — Data Link

[Graph showing network throughput and packet error rate over time for different flows, with legends indicating mean throughput and 95th percentile delay.]
Run 9: Statistics of Copa

End at: 2018-07-27 11:38:27
Local clock offset: 0.169 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-07-27 12:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 166.56 Mbit/s
95th percentile per-packet one-way delay: 57.626 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 78.66 Mbit/s
95th percentile per-packet one-way delay: 56.937 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 106.64 Mbit/s
95th percentile per-packet one-way delay: 59.506 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.16 Mbit/s
95th percentile per-packet one-way delay: 54.687 ms
Loss rate: 1.12%
Run 9: Report of Copa — Data Link

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

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

Legend for Graph 1:
- Flow 1 ingress (mean 78.51 Mbps)
- Flow 1 egress (mean 78.66 Mbps)
- Flow 2 ingress (mean 106.70 Mbps)
- Flow 2 egress (mean 106.64 Mbps)
- Flow 3 ingress (mean 60.23 Mbps)
- Flow 3 egress (mean 60.16 Mbps)

Legend for Graph 2:
- Flow 1 (95th percentile 56.94 ms)
- Flow 2 (95th percentile 59.51 ms)
- Flow 3 (95th percentile 54.69 ms)
Run 10: Statistics of Copa

Start at: 2018-07-27 12:02:14
End at: 2018-07-27 12:02:44
Local clock offset: -0.098 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2018-07-27 12:43:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 192.96 Mbit/s
95th percentile per-packet one-way delay: 56.062 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 94.88 Mbit/s
95th percentile per-packet one-way delay: 55.016 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 114.48 Mbit/s
95th percentile per-packet one-way delay: 56.350 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 66.50 Mbit/s
95th percentile per-packet one-way delay: 59.895 ms
Loss rate: 1.44%
Run 10: Report of Copa — Data Link

![Graph showing network throughput and packet delay](#)

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 94.83 Mbps)
  - Flow 1 egress (mean 94.88 Mbps)
  - Flow 2 ingress (mean 114.73 Mbps)
  - Flow 2 egress (mean 114.48 Mbps)
  - Flow 3 ingress (mean 66.79 Mbps)
  - Flow 3 egress (mean 66.50 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 55.02 ms)
  - Flow 2 (95th percentile 56.35 ms)
  - Flow 3 (95th percentile 59.90 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-07-27 08:30:50
End at: 2018-07-27 08:31:20
Local clock offset: 0.298 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-07-27 12:43:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.93 Mbit/s
95th percentile per-packet one-way delay: 118.556 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 197.12 Mbit/s
95th percentile per-packet one-way delay: 115.560 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 111.54 Mbit/s
95th percentile per-packet one-way delay: 112.913 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 129.47 Mbit/s
95th percentile per-packet one-way delay: 123.837 ms
Loss rate: 1.88%
Run 1: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 197.31 Mbit/s)
- Flow 1 egress (mean 197.12 Mbit/s)
- Flow 2 ingress (mean 111.52 Mbit/s)
- Flow 2 egress (mean 111.54 Mbit/s)
- Flow 3 ingress (mean 130.88 Mbit/s)
- Flow 3 egress (mean 129.47 Mbit/s)
Run 2: Statistics of TCP Cubic

Start at: 2018-07-27 08:54:58
Local clock offset: 0.013 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-07-27 12:43:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.38 Mbit/s
95th percentile per-packet one-way delay: 60.796 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 201.15 Mbit/s
95th percentile per-packet one-way delay: 60.954 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 139.05 Mbit/s
95th percentile per-packet one-way delay: 60.534 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 56.329 ms
Loss rate: 3.69%
Run 2: Report of TCP Cubic — Data Link

![Graph 1](image)

Flow 1 ingress (mean 200.95 Mbit/s)  Flow 1 egress (mean 201.13 Mbit/s)
Flow 2 ingress (mean 139.34 Mbit/s)  Flow 2 egress (mean 139.05 Mbit/s)
Flow 3 ingress (mean 5.56 Mbit/s)  Flow 3 egress (mean 5.41 Mbit/s)

![Graph 2](image)

Flow 1 (95th percentile 60.95 ms)  Flow 2 (95th percentile 60.53 ms)  Flow 3 (95th percentile 56.33 ms)
Run 3: Statistics of TCP Cubic

Start at: 2018-07-27 09:19:05
End at: 2018-07-27 09:19:35
Local clock offset: 0.273 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 12:43:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 301.32 Mbit/s
  95th percentile per-packet one-way delay: 131.892 ms
  Loss rate: 0.72%
-- Flow 1:
  Average throughput: 153.28 Mbit/s
  95th percentile per-packet one-way delay: 127.166 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 171.76 Mbit/s
  95th percentile per-packet one-way delay: 134.777 ms
  Loss rate: 0.77%
-- Flow 3:
  Average throughput: 102.64 Mbit/s
  95th percentile per-packet one-way delay: 133.074 ms
  Loss rate: 2.23%
Run 3: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 153.28 Mbps)
- Flow 1 egress (mean 153.28 Mbps)
- Flow 2 ingress (mean 172.23 Mbps)
- Flow 2 egress (mean 171.76 Mbps)
- Flow 3 ingress (mean 103.92 Mbps)
- Flow 3 egress (mean 102.64 Mbps)

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

- Flow 1 (95th percentile 127.17 ms)
- Flow 2 (95th percentile 134.78 ms)
- Flow 3 (95th percentile 133.07 ms)
Run 4: Statistics of TCP Cubic

End at: 2018-07-27 09:43:29
Local clock offset: -0.455 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-07-27 12:44:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.23 Mbit/s
95th percentile per-packet one-way delay: 93.123 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 191.70 Mbit/s
95th percentile per-packet one-way delay: 92.204 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 185.53 Mbit/s
95th percentile per-packet one-way delay: 94.405 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 88.867 ms
Loss rate: 5.26%
Run 4: Report of TCP Cubic — Data Link

![Graph 1: Throughput](image1)

- **Flow 1 ingress** (mean 191.70 Mbit/s)
- **Flow 1 egress** (mean 191.70 Mbit/s)
- **Flow 2 ingress** (mean 185.87 Mbit/s)
- **Flow 2 egress** (mean 185.53 Mbit/s)
- **Flow 3 ingress** (mean 3.66 Mbit/s)
- **Flow 3 egress** (mean 3.50 Mbit/s)

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

- **Flow 1** (95th percentile 92.20 ms)
- **Flow 2** (95th percentile 94.41 ms)
- **Flow 3** (95th percentile 88.87 ms)
Run 5: Statistics of TCP Cubic

End at: 2018-07-27 10:07:43
Local clock offset: -0.083 ms
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2018-07-27 12:46:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.29 Mbit/s
95th percentile per-packet one-way delay: 133.078 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 203.93 Mbit/s
95th percentile per-packet one-way delay: 125.875 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 139.115 ms
Loss rate: 3.59%
-- Flow 3:
Average throughput: 142.42 Mbit/s
95th percentile per-packet one-way delay: 138.544 ms
Loss rate: 1.71%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

End at: 2018-07-27 10:31:54
Local clock offset: -0.039 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2018-07-27 12:46:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.49 Mbit/s
95th percentile per-packet one-way delay: 97.867 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 100.12 Mbit/s
95th percentile per-packet one-way delay: 94.069 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 105.60 Mbit/s
95th percentile per-packet one-way delay: 96.531 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 170.52 Mbit/s
95th percentile per-packet one-way delay: 100.945 ms
Loss rate: 1.45%
Run 6: Report of TCP Cubic — Data Link
Run 7: Statistics of TCP Cubic

Local clock offset: 0.328 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2018-07-27 12:47:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.81 Mbit/s
95th percentile per-packet one-way delay: 79.478 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 224.79 Mbit/s
95th percentile per-packet one-way delay: 76.725 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 46.11 Mbit/s
95th percentile per-packet one-way delay: 88.534 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 89.955 ms
Loss rate: 4.66%
Run 7: Report of TCP Cubic — Data Link

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

- **Flow 1 ingo**: Mean 224.90 Mbit/s
- **Flow 1 egress**: Mean 224.79 Mbit/s
- **Flow 2 ingo**: Mean 47.06 Mbit/s
- **Flow 2 egress**: Mean 46.11 Mbit/s
- **Flow 3 ingo**: Mean 4.47 Mbit/s
- **Flow 3 egress**: Mean 4.30 Mbit/s

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

- **Flow 1 (95th percentile)**: 76.72 ms
- **Flow 2 (95th percentile)**: 88.53 ms
- **Flow 3 (95th percentile)**: 89.95 ms
Run 8: Statistics of TCP Cubic

Local clock offset: -0.079 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2018-07-27 12:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.97 Mbit/s
95th percentile per-packet one-way delay: 92.075 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 200.71 Mbit/s
95th percentile per-packet one-way delay: 90.828 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 186.48 Mbit/s
95th percentile per-packet one-way delay: 93.618 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 88.282 ms
Loss rate: 5.35%
Run 8: Report of TCP Cubic — Data Link
Run 9: Statistics of TCP Cubic

End at: 2018-07-27 11:44:20
Local clock offset: 0.191 ms
Remote clock offset: -0.206 ms

# Below is generated by plot.py at 2018-07-27 12:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.32 Mbit/s
95th percentile per-packet one-way delay: 78.390 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 141.72 Mbit/s
95th percentile per-packet one-way delay: 78.128 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 211.27 Mbit/s
95th percentile per-packet one-way delay: 78.485 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 81.831 ms
Loss rate: 5.20%
Run 9: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 142.13 Mbit/s)
- Flow 1 egress (mean 141.72 Mbit/s)
- Flow 2 ingress (mean 211.60 Mbit/s)
- Flow 2 egress (mean 211.27 Mbit/s)
- Flow 3 ingress (mean 3.81 Mbit/s)
- Flow 3 egress (mean 3.65 Mbit/s)
Run 10: Statistics of TCP Cubic

Start at: 2018-07-27 12:08:10
End at: 2018-07-27 12:08:40
Local clock offset: 0.23 ms
Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2018-07-27 12:49:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.37 Mbit/s
95th percentile per-packet one-way delay: 71.022 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 211.94 Mbit/s
95th percentile per-packet one-way delay: 71.957 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 142.92 Mbit/s
95th percentile per-packet one-way delay: 69.021 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 69.085 ms
Loss rate: 4.55%
Run 10: Report of TCP Cubic — Data Link

---

### Throughput

<table>
<thead>
<tr>
<th>Flow</th>
<th>Ingress (mean)</th>
<th>Egress (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow 1</td>
<td>211.61 Mbit/s</td>
<td>211.94 Mbit/s</td>
</tr>
<tr>
<td>Flow 2</td>
<td>142.86 Mbit/s</td>
<td>142.92 Mbit/s</td>
</tr>
<tr>
<td>Flow 3</td>
<td>4.38 Mbit/s</td>
<td>4.23 Mbit/s</td>
</tr>
</tbody>
</table>

### Delay

<table>
<thead>
<tr>
<th>Flow</th>
<th>95th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow 1</td>
<td>71.96 ms</td>
</tr>
<tr>
<td>Flow 2</td>
<td>69.02 ms</td>
</tr>
<tr>
<td>Flow 3</td>
<td>69.08 ms</td>
</tr>
</tbody>
</table>
Run 1: Statistics of FillP

Start at: 2018-07-27 08:27:48
End at: 2018-07-27 08:28:18
Local clock offset: -0.138 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2018-07-27 13:08:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1108.17 Mbit/s
95th percentile per-packet one-way delay: 249.271 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 544.53 Mbit/s
95th percentile per-packet one-way delay: 247.439 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 582.65 Mbit/s
95th percentile per-packet one-way delay: 270.697 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 536.69 Mbit/s
95th percentile per-packet one-way delay: 233.800 ms
Loss rate: 1.92%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2018-07-27 08:51:56
End at: 2018-07-27 08:52:26
Local clock offset: 0.391 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2018-07-27 13:09:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1083.88 Mbit/s
95th percentile per-packet one-way delay: 240.921 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 501.72 Mbit/s
95th percentile per-packet one-way delay: 242.971 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 596.06 Mbit/s
95th percentile per-packet one-way delay: 236.311 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 565.67 Mbit/s
95th percentile per-packet one-way delay: 242.506 ms
Loss rate: 2.68%
Run 2: Report of FillP — Data Link
Run 3: Statistics of FillP

Start at: 2018-07-27 09:16:00
End at: 2018-07-27 09:16:30
Local clock offset: -0.023 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-07-27 13:12:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1145.69 Mbit/s
95th percentile per-packet one-way delay: 240.679 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 584.43 Mbit/s
95th percentile per-packet one-way delay: 227.840 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 567.18 Mbit/s
95th percentile per-packet one-way delay: 276.417 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 563.58 Mbit/s
95th percentile per-packet one-way delay: 221.068 ms
Loss rate: 1.28%
Run 3: Report of FillP — Data Link

![Data Link Throughput Graph]

![Data Link Delay Graph]
Run 4: Statistics of FillP

End at: 2018-07-27 09:40:43
Local clock offset: -0.419 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-27 13:12:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 717.10 Mbit/s
95th percentile per-packet one-way delay: 238.549 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 141.75 Mbit/s
95th percentile per-packet one-way delay: 260.288 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 588.32 Mbit/s
95th percentile per-packet one-way delay: 233.185 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 562.82 Mbit/s
95th percentile per-packet one-way delay: 189.943 ms
Loss rate: 2.04%
Run 4: Report of FillP — Data Link

---

### Throughput (Mbps)

**Throughput (Mbps):**

- **Flow 1 Ingress (mean 141.37 Mbps):**
- **Flow 1 Egress (mean 141.75 Mbps):**
- **Flow 2 Ingress (mean 588.65 Mbps):**
- **Flow 2 Egress (mean 588.32 Mbps):**
- **Flow 3 Ingress (mean 568.58 Mbps):**
- **Flow 3 Egress (mean 562.82 Mbps):**

---

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

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

- **Flow 1 (95th percentile 260.29 ms):**
- **Flow 2 (95th percentile 233.19 ms):**
- **Flow 3 (95th percentile 189.94 ms):**

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71
Run 5: Statistics of FillP

Start at: 2018-07-27 10:04:08
End at: 2018-07-27 10:04:38
Local clock offset: 0.243 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2018-07-27 13:14:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1166.15 Mbit/s
95th percentile per-packet one-way delay: 247.213 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 600.49 Mbit/s
95th percentile per-packet one-way delay: 268.906 ms
Loss rate: 2.52%
-- Flow 2:
Average throughput: 561.85 Mbit/s
95th percentile per-packet one-way delay: 223.621 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 584.98 Mbit/s
95th percentile per-packet one-way delay: 209.447 ms
Loss rate: 3.41%
Run 5: Report of FillP — Data Link

![Graph of network performance metrics over time]

- **Throughput (Mbps)**
- **Delay (ms)**

Legend for Throughput:
- Flow 1 ingress (mean 613.96 Mbps)
- Flow 1 egress (mean 600.49 Mbps)
- Flow 2 ingress (mean 565.57 Mbps)
- Flow 2 egress (mean 561.85 Mbps)
- Flow 3 ingress (mean 599.33 Mbps)
- Flow 3 egress (mean 584.98 Mbps)

Legend for Delay:
- Flow 1 (95th percentile 268.91 ms)
- Flow 2 (95th percentile 223.62 ms)
- Flow 3 (95th percentile 209.45 ms)
Run 6: Statistics of FillP

Local clock offset: -0.349 ms
Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2018-07-27 13:14:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1129.42 Mbit/s
95th percentile per-packet one-way delay: 219.845 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 603.65 Mbit/s
95th percentile per-packet one-way delay: 229.033 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 521.02 Mbit/s
95th percentile per-packet one-way delay: 194.379 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 548.31 Mbit/s
95th percentile per-packet one-way delay: 194.314 ms
Loss rate: 1.33%
Run 6: Report of FillP — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 603.55 Mbps)
- Flow 1 egress (mean 603.65 Mbps)
- Flow 2 ingress (mean 520.81 Mbps)
- Flow 2 egress (mean 521.02 Mbps)
- Flow 3 ingress (mean 549.97 Mbps)
- Flow 3 egress (mean 548.31 Mbps)

Per-packet one-way delay (ms):

- Flow 1 (95th percentile 229.03 ms)
- Flow 2 (95th percentile 194.38 ms)
- Flow 3 (95th percentile 194.31 ms)
Run 7: Statistics of FillP

End at: 2018-07-27 10:52:50
Local clock offset: -0.058 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-27 13:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1167.79 Mbit/s
95th percentile per-packet one-way delay: 264.516 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 600.99 Mbit/s
95th percentile per-packet one-way delay: 269.842 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 597.53 Mbit/s
95th percentile per-packet one-way delay: 258.832 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 516.58 Mbit/s
95th percentile per-packet one-way delay: 264.585 ms
Loss rate: 3.42%
Run 7: Report of FillP — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 613.39 Mbps)
  - Flow 1 egress (mean 600.99 Mbps)
  - Flow 2 ingress (mean 605.40 Mbps)
  - Flow 2 egress (mean 597.53 Mbps)
  - Flow 3 ingress (mean 529.49 Mbps)
  - Flow 3 egress (mean 516.58 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 269.84 ms)
  - Flow 2 (95th percentile 258.83 ms)
  - Flow 3 (95th percentile 264.58 ms)
Run 8: Statistics of FillP

Start at: 2018-07-27 11:16:26
End at: 2018-07-27 11:16:56
Local clock offset: -0.436 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-27 13:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1146.83 Mbit/s
95th percentile per-packet one-way delay: 231.180 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 567.97 Mbit/s
95th percentile per-packet one-way delay: 235.884 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 622.21 Mbit/s
95th percentile per-packet one-way delay: 231.779 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 505.60 Mbit/s
95th percentile per-packet one-way delay: 105.855 ms
Loss rate: 1.25%
Run 8: Report of FillP — Data Link

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

- Flow 1 ingress (mean 570.45 Mbit/s)
- Flow 1 egress (mean 567.97 Mbit/s)
- Flow 2 ingress (mean 623.88 Mbit/s)
- Flow 2 egress (mean 622.27 Mbit/s)
- Flow 3 ingress (mean 507.32 Mbit/s)
- Flow 3 egress (mean 505.46 Mbit/s)

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

- Flow 1 (95th percentile 235.88 ms)
- Flow 2 (95th percentile 231.70 ms)
- Flow 3 (95th percentile 105.86 ms)
Run 9: Statistics of FillP

End at: 2018-07-27 11:41:16
Local clock offset: -0.183 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2018-07-27 13:28:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1110.31 Mbit/s
95th percentile per-packet one-way delay: 261.516 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 582.66 Mbit/s
95th percentile per-packet one-way delay: 285.482 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 585.96 Mbit/s
95th percentile per-packet one-way delay: 239.615 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 420.64 Mbit/s
95th percentile per-packet one-way delay: 259.073 ms
Loss rate: 0.92%
Run 9: Report of FillP — Data Link

![Graph 1: Throughput](image1)

![Graph 2: Per-packet one-way delay](image2)
Run 10: Statistics of FillP

Start at: 2018-07-27 12:05:06
End at: 2018-07-27 12:05:36
Local clock offset: 0.248 ms
Remote clock offset: -0.205 ms

# Below is generated by plot.py at 2018-07-27 13:36:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1143.67 Mbit/s
  95th percentile per-packet one-way delay: 253.565 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 599.27 Mbit/s
  95th percentile per-packet one-way delay: 252.941 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 549.34 Mbit/s
  95th percentile per-packet one-way delay: 272.466 ms
  Loss rate: 1.52%
-- Flow 3:
  Average throughput: 548.65 Mbit/s
  95th percentile per-packet one-way delay: 158.988 ms
  Loss rate: 1.30%
Run 10: Report of FillP — Data Link

![Diagram of network performance metrics over time](image-url)

**Throughput (Mb/s)**

- **Flow 1 ingress** (mean 600.08 Mb/s)
- **Flow 1 egress** (mean 599.27 Mb/s)
- **Flow 2 ingress** (mean 554.99 Mb/s)
- **Flow 2 egress** (mean 549.34 Mb/s)
- **Flow 3 ingress** (mean 550.19 Mb/s)
- **Flow 3 egress** (mean 548.65 Mb/s)

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

- **Flow 1** (95th percentile 252.94 ms)
- **Flow 2** (95th percentile 272.47 ms)
- **Flow 3** (95th percentile 159.99 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-27 08:16:45
End at: 2018-07-27 08:17:15
Local clock offset: -0.161 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-07-27 13:36:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1044.86 Mbit/s
95th percentile per-packet one-way delay: 111.317 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 476.16 Mbit/s
95th percentile per-packet one-way delay: 99.217 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 586.05 Mbit/s
95th percentile per-packet one-way delay: 101.158 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 545.05 Mbit/s
95th percentile per-packet one-way delay: 164.419 ms
Loss rate: 1.48%
Run 1: Report of FillP-Sheep — Data Link

![Graph showing network performance metrics over time.]

Legend:
- Flow 1 ingress (mean 476.73 Mbit/s)
- Flow 1 egress (mean 476.16 Mbit/s)
- Flow 2 ingress (mean 587.54 Mbit/s)
- Flow 2 egress (mean 586.05 Mbit/s)
- Flow 3 ingress (mean 547.50 Mbit/s)
- Flow 3 egress (mean 545.05 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 99.22 ms)
- Flow 2 (95th percentile 101.16 ms)
- Flow 3 (95th percentile 164.42 ms)
Run 2: Statistics of FILLP-Sheep

Start at: 2018-07-27 08:40:56
End at: 2018-07-27 08:41:26
Local clock offset: 0.011 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-07-27 13:36:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1028.48 Mbit/s
95th percentile per-packet one-way delay: 107.557 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 516.64 Mbit/s
95th percentile per-packet one-way delay: 101.295 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 505.04 Mbit/s
95th percentile per-packet one-way delay: 113.192 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 535.25 Mbit/s
95th percentile per-packet one-way delay: 115.977 ms
Loss rate: 1.22%
Run 2: Report of FillP-Sheep — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 517.28 Mbps)
  - Flow 1 egress (mean 516.64 Mbps)
  - Flow 2 ingress (mean 506.04 Mbps)
  - Flow 2 egress (mean 505.04 Mbps)
  - Flow 3 ingress (mean 536.35 Mbps)
  - Flow 3 egress (mean 535.25 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 101.30 ms)
  - Flow 2 (95th percentile 113.19 ms)
  - Flow 3 (95th percentile 115.98 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-27 09:04:58
End at: 2018-07-27 09:05:28
Local clock offset: -0.014 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2018-07-27 13:41:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1138.18 Mbit/s
95th percentile per-packet one-way delay: 141.135 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 592.75 Mbit/s
95th percentile per-packet one-way delay: 115.003 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 551.61 Mbit/s
95th percentile per-packet one-way delay: 249.723 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 543.62 Mbit/s
95th percentile per-packet one-way delay: 126.680 ms
Loss rate: 1.32%
Run 3: Report of FillP-Sheep — Data Link

![Graph 1: Throughput vs Time](chart1)

- Flow 1 ingress (mean 593.79 Mbit/s)
- Flow 1 egress (mean 592.75 Mbit/s)
- Flow 2 ingress (mean 552.76 Mbit/s)
- Flow 2 egress (mean 551.61 Mbit/s)
- Flow 3 ingress (mean 545.27 Mbit/s)
- Flow 3 egress (mean 543.62 Mbit/s)

![Graph 2: Per-packet one-way delay vs Time](chart2)

- Flow 1 (95th percentile 115.00 ms)
- Flow 2 (95th percentile 249.72 ms)
- Flow 3 (95th percentile 126.68 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-27 09:29:08
End at: 2018-07-27 09:29:38
Local clock offset: ~0.404 ms
Remote clock offset: ~0.073 ms

# Below is generated by plot.py at 2018-07-27 13:41:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1066.63 Mbit/s
  95th percentile per-packet one-way delay: 155.140 ms
  Loss rate: 0.55%
-- Flow 1:
  Average throughput: 524.69 Mbit/s
  95th percentile per-packet one-way delay: 114.825 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 571.54 Mbit/s
  95th percentile per-packet one-way delay: 156.000 ms
  Loss rate: 0.35%
-- Flow 3:
  Average throughput: 492.95 Mbit/s
  95th percentile per-packet one-way delay: 231.126 ms
  Loss rate: 1.24%
Run 4: Report of FillP-Sheep — Data Link

[Graphs showing throughput and per-packet one-way delay for different flows.]
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-27 09:53:06  
End at: 2018-07-27 09:53:36  
Local clock offset: 0.254 ms  
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-07-27 13:41:44  
# Datalink statistics

-- Total of 3 flows:  
Average throughput: 1106.15 Mbit/s  
95th percentile per-packet one-way delay: 165.569 ms  
Loss rate: 0.83%  

-- Flow 1:  
Average throughput: 559.79 Mbit/s  
95th percentile per-packet one-way delay: 121.791 ms  
Loss rate: 0.48%  

-- Flow 2:  
Average throughput: 558.25 Mbit/s  
95th percentile per-packet one-way delay: 230.380 ms  
Loss rate: 0.94%  

-- Flow 3:  
Average throughput: 533.24 Mbit/s  
95th percentile per-packet one-way delay: 111.872 ms  
Loss rate: 1.66%
Run 5: Report of FillP-Sheep — Data Link

The graphs above show the throughput and per-packet one-way delay over time for different flows during Run 5. The throughputs are represented by different line styles and colors, while the delays are shown with markers.

Throughput Graph:
- Flow 1 ingress (mean 560.56 Mbit/s)
- Flow 1 egress (mean 559.79 Mbit/s)
- Flow 2 ingress (mean 560.44 Mbit/s)
- Flow 2 egress (mean 558.25 Mbit/s)
- Flow 3 ingress (mean 536.56 Mbit/s)
- Flow 3 egress (mean 533.24 Mbit/s)

Delay Graph:
- Flow 1 (95th percentile 121.79 ms)
- Flow 2 (95th percentile 230.38 ms)
- Flow 3 (95th percentile 111.87 ms)
Run 6: Statistics of FillP-Sheep

End at: 2018-07-27 10:17:43
Local clock offset: 0.316 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-07-27 13:43:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1158.14 Mbit/s
  95th percentile per-packet one-way delay: 132.185 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 595.97 Mbit/s
  95th percentile per-packet one-way delay: 140.791 ms
  Loss rate: 0.34%
-- Flow 2:
  Average throughput: 576.02 Mbit/s
  95th percentile per-packet one-way delay: 104.807 ms
  Loss rate: 0.44%
-- Flow 3:
  Average throughput: 543.84 Mbit/s
  95th percentile per-packet one-way delay: 187.946 ms
  Loss rate: 2.17%
Run 6: Report of FillP-Sheep — Data Link

Graph 1: Throughput (Mbps)

Graph 2: Per-packet one-way delay (ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-27 10:41:18
Local clock offset: -0.032 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2018-07-27 13:57:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1136.05 Mbit/s
  95th percentile per-packet one-way delay: 125.688 ms
  Loss rate: 0.72%
-- Flow 1:
  Average throughput: 576.12 Mbit/s
  95th percentile per-packet one-way delay: 125.733 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 576.00 Mbit/s
  95th percentile per-packet one-way delay: 128.819 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 538.12 Mbit/s
  95th percentile per-packet one-way delay: 101.631 ms
  Loss rate: 1.26%
Run 7: Report of FillP-Sheep — Data Link

![Graph of Throughput and Packet Delay]

- **Flow 1**:
  - Ingress: Mean 577.28 Mbit/s
  - Egress: Mean 576.12 Mbit/s

- **Flow 2**:
  - Ingress: Mean 577.40 Mbit/s
  - Egress: Mean 576.00 Mbit/s

- **Flow 3**:
  - Ingress: Mean 539.53 Mbit/s
  - Egress: Mean 538.12 Mbit/s
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-27 11:05:23  
End at: 2018-07-27 11:05:53  
Local clock offset: -0.384 ms  
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-27 14:02:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1145.82 Mbit/s  
95th percentile per-packet one-way delay: 138.692 ms  
Loss rate: 0.89%  
-- Flow 1:  
Average throughput: 572.88 Mbit/s  
95th percentile per-packet one-way delay: 118.149 ms  
Loss rate: 0.42%  
-- Flow 2:  
Average throughput: 592.73 Mbit/s  
95th percentile per-packet one-way delay: 122.938 ms  
Loss rate: 0.77%  
-- Flow 3:  
Average throughput: 543.63 Mbit/s  
95th percentile per-packet one-way delay: 269.576 ms  
Loss rate: 2.60%
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-27 11:29:30
End at: 2018-07-27 11:30:00
Local clock offset: 0.239 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2018-07-27 14:05:41
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 1165.57 Mbit/s
   95th percentile per-packet one-way delay: 122.591 ms
   Loss rate: 0.71%
-- Flow 1:
   Average throughput: 597.21 Mbit/s
   95th percentile per-packet one-way delay: 117.000 ms
   Loss rate: 0.47%
-- Flow 2:
   Average throughput: 611.43 Mbit/s
   95th percentile per-packet one-way delay: 145.573 ms
   Loss rate: 0.84%
-- Flow 3:
   Average throughput: 492.72 Mbit/s
   95th percentile per-packet one-way delay: 105.359 ms
   Loss rate: 1.32%
Run 9: Report of FillP-Sheep — Data Link

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

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

Legend:
- Flow 1 ingress (mean 597.06 Mbit/s)
- Flow 1 egress (mean 597.21 Mbit/s)
- Flow 2 ingress (mean 613.41 Mbit/s)
- Flow 2 egress (mean 611.43 Mbit/s)
- Flow 3 ingress (mean 494.14 Mbit/s)
- Flow 3 egress (mean 492.72 Mbit/s)

Legend:
- Flow 1 (95th percentile 117.00 ms)
- Flow 2 (95th percentile 145.57 ms)
- Flow 3 (95th percentile 105.36 ms)
Run 10: Statistics of FillP-Sheep

End at: 2018-07-27 11:54:20
Local clock offset: 0.195 ms
Remote clock offset: -0.196 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1161.22 Mbit/s
95th percentile per-packet one-way delay: 160.759 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 590.06 Mbit/s
95th percentile per-packet one-way delay: 109.533 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 593.62 Mbit/s
95th percentile per-packet one-way delay: 272.586 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 536.60 Mbit/s
95th percentile per-packet one-way delay: 152.730 ms
Loss rate: 1.30%
Run 10: Report of FillIP-Sheep — Data Link

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

Throughput (Mbps): 0 to 800

Time (s): 0 to 30

- **Flow 1 ingress** (mean 591.02 Mbps)
- **Flow 1 egress** (mean 590.06 Mbps)
- **Flow 2 ingress** (mean 605.02 Mbps)
- **Flow 2 egress** (mean 593.62 Mbps)
- **Flow 3 ingress** (mean 536.30 Mbps)
- **Flow 3 egress** (mean 536.60 Mbps)

Delay (ms): 0 to 350

Time (s): 0 to 30

- **Flow 1** (95th percentile 109.53 ms)
- **Flow 2** (95th percentile 272.59 ms)
- **Flow 3** (95th percentile 152.73 ms)
Run 1: Statistics of Indigo

Start at: 2018-07-27 08:15:18
End at: 2018-07-27 08:15:48
Local clock offset: -0.097 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 305.46 Mbit/s
95th percentile per-packet one-way delay: 82.650 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 183.54 Mbit/s
95th percentile per-packet one-way delay: 77.710 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 133.33 Mbit/s
95th percentile per-packet one-way delay: 83.500 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 93.48 Mbit/s
95th percentile per-packet one-way delay: 91.547 ms
Loss rate: 1.16%
Run 1: Report of Indigo — Data Link

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

Start at: 2018-07-27 08:39:27
End at: 2018-07-27 08:39:57
Local clock offset: -0.352 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.63 Mbit/s
95th percentile per-packet one-way delay: 92.727 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 170.82 Mbit/s
95th percentile per-packet one-way delay: 87.028 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 142.62 Mbit/s
95th percentile per-packet one-way delay: 92.729 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 132.99 Mbit/s
95th percentile per-packet one-way delay: 95.673 ms
Loss rate: 1.13%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-07-27 09:03:30
End at: 2018-07-27 09:04:00
Local clock offset: 0.006 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 293.52 Mbit/s
  95th percentile per-packet one-way delay: 81.672 ms
  Loss rate: 0.46%
-- Flow 1:
  Average throughput: 180.88 Mbit/s
  95th percentile per-packet one-way delay: 78.905 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 131.54 Mbit/s
  95th percentile per-packet one-way delay: 82.879 ms
  Loss rate: 0.47%
-- Flow 3:
  Average throughput: 79.25 Mbit/s
  95th percentile per-packet one-way delay: 87.456 ms
  Loss rate: 1.43%
Run 3: Report of Indigo — Data Link

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

- **Flow 1 ingress (mean 180.84 Mbit/s)**
- **Flow 1 egress (mean 180.88 Mbit/s)**
- **Flow 2 ingress (mean 131.46 Mbit/s)**
- **Flow 2 egress (mean 131.54 Mbit/s)**
- **Flow 3 ingress (mean 79.57 Mbit/s)**
- **Flow 3 egress (mean 79.25 Mbit/s)**

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

- **Flow 1 (95th percentile 78.91 ms)**
- **Flow 2 (95th percentile 82.88 ms)**
- **Flow 3 (95th percentile 87.46 ms)**
Run 4: Statistics of Indigo

Start at: 2018-07-27 09:27:40
End at: 2018-07-27 09:28:10
Local clock offset: -0.027 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.77 Mbit/s
95th percentile per-packet one-way delay: 73.200 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 179.27 Mbit/s
95th percentile per-packet one-way delay: 70.634 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 151.19 Mbit/s
95th percentile per-packet one-way delay: 75.515 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 34.43 Mbit/s
95th percentile per-packet one-way delay: 79.578 ms
Loss rate: 1.03%
Run 4: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 179.33 Mbps)
- Flow 1 egress (mean 179.27 Mbps)
- Flow 2 ingress (mean 151.26 Mbps)
- Flow 2 egress (mean 151.19 Mbps)
- Flow 3 ingress (mean 34.43 Mbps)
- Flow 3 egress (mean 34.43 Mbps)

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

- Flow 1 (95th percentile 70.63 ms)
- Flow 2 (95th percentile 75.52 ms)
- Flow 3 (95th percentile 79.58 ms)
Run 5: Statistics of Indigo

Start at: 2018-07-27 09:51:37
End at: 2018-07-27 09:52:07
Local clock offset: -0.004 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 306.14 Mbit/s
95th percentile per-packet one-way delay: 77.515 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 181.15 Mbit/s
95th percentile per-packet one-way delay: 73.131 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 147.61 Mbit/s
95th percentile per-packet one-way delay: 78.735 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 82.98 Mbit/s
95th percentile per-packet one-way delay: 82.416 ms
Loss rate: 1.19%
Run 5: Report of Indigo — Data Link
Run 6: Statistics of Indigo

Start at: 2018-07-27 10:15:45
End at: 2018-07-27 10:16:15
Local clock offset: -0.416 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.75 Mbit/s
95th percentile per-packet one-way delay: 86.574 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 174.46 Mbit/s
95th percentile per-packet one-way delay: 82.725 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 136.32 Mbit/s
95th percentile per-packet one-way delay: 86.968 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 74.88 Mbit/s
95th percentile per-packet one-way delay: 91.073 ms
Loss rate: 1.17%
Run 6: Report of Indigo — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 174.42 Mbit/s)
- Flow 1 egress (mean 174.46 Mbit/s)
- Flow 2 ingress (mean 136.35 Mbit/s)
- Flow 2 egress (mean 136.32 Mbit/s)
- Flow 3 ingress (mean 74.97 Mbit/s)
- Flow 3 egress (mean 74.88 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 82.72 ms)
- Flow 2 (95th percentile 86.97 ms)
- Flow 3 (95th percentile 91.07 ms)
Run 7: Statistics of Indigo

End at: 2018-07-27 10:40:21
Local clock offset: 0.025 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.16 Mbit/s
95th percentile per-packet one-way delay: 77.286 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 174.16 Mbit/s
95th percentile per-packet one-way delay: 76.022 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 131.52 Mbit/s
95th percentile per-packet one-way delay: 78.258 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 51.69 Mbit/s
95th percentile per-packet one-way delay: 81.030 ms
Loss rate: 1.05%
Run 7: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 174.19 Mbit/s)
- Flow 1 egress (mean 174.16 Mbit/s)
- Flow 2 ingress (mean 131.62 Mbit/s)
- Flow 2 egress (mean 131.52 Mbit/s)
- Flow 3 ingress (mean 51.70 Mbit/s)
- Flow 3 egress (mean 51.69 Mbit/s)
Run 8: Statistics of Indigo

Start at: 2018-07-27 11:03:54
End at: 2018-07-27 11:04:24
Local clock offset: -0.408 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.95 Mbit/s
95th percentile per-packet one-way delay: 66.849 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 180.60 Mbit/s
95th percentile per-packet one-way delay: 65.535 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 162.91 Mbit/s
95th percentile per-packet one-way delay: 67.324 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 69.821 ms
Loss rate: 0.98%
Run 8: Report of Indigo — Data Link
Run 9: Statistics of Indigo

Start at: 2018-07-27 11:28:01
Local clock offset: 0.241 ms
Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 309.35 Mbit/s
  95th percentile per-packet one-way delay: 85.396 ms
  Loss rate: 0.49%
-- Flow 1:
  Average throughput: 174.29 Mbit/s
  95th percentile per-packet one-way delay: 77.365 ms
  Loss rate: 0.31%
-- Flow 2:
  Average throughput: 136.12 Mbit/s
  95th percentile per-packet one-way delay: 86.510 ms
  Loss rate: 0.44%
-- Flow 3:
  Average throughput: 136.40 Mbit/s
  95th percentile per-packet one-way delay: 104.218 ms
  Loss rate: 1.29%
Run 9: Report of Indigo — Data Link
Run 10: Statistics of Indigo

End at: 2018-07-27 11:52:51
Local clock offset: -0.136 ms
Remote clock offset: -0.213 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.20 Mbit/s
95th percentile per-packet one-way delay: 74.364 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 167.60 Mbit/s
95th percentile per-packet one-way delay: 69.594 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 144.30 Mbit/s
95th percentile per-packet one-way delay: 75.150 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 97.89 Mbit/s
95th percentile per-packet one-way delay: 89.955 ms
Loss rate: 1.09%
Run 10: Report of Indigo — Data Link

Throughput (Mb/s):

- Flow 1 ingress (mean 167.48 Mb/s)
- Flow 1 egress (mean 167.60 Mb/s)
- Flow 2 ingress (mean 144.23 Mb/s)
- Flow 2 egress (mean 144.30 Mb/s)
- Flow 3 ingress (mean 97.03 Mb/s)
- Flow 3 egress (mean 97.89 Mb/s)

Per-packet one-way delay (ms):

- Flow 1 (95th percentile 69.59 ms)
- Flow 2 (95th percentile 75.15 ms)
- Flow 3 (95th percentile 89.95 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-07-27 08:19:44
End at: 2018-07-27 08:20:14
Local clock offset: -0.15 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 52.522 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 35.16 Mbit/s
95th percentile per-packet one-way delay: 52.630 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 23.26 Mbit/s
95th percentile per-packet one-way delay: 52.296 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 51.515 ms
Loss rate: 3.58%
Run 1: Report of LEDBAT — Data Link

![Graph showing throughput over time for different flows]

- Flow 1 ingress (mean 35.28 Mbit/s)
- Flow 1 egress (mean 35.16 Mbit/s)
- Flow 2 ingress (mean 23.38 Mbit/s)
- Flow 2 egress (mean 23.26 Mbit/s)
- Flow 3 ingress (mean 3.22 Mbit/s)
- Flow 3 egress (mean 3.14 Mbit/s)

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

- Flow 1 (95th percentile 52.63 ms)
- Flow 2 (95th percentile 52.30 ms)
- Flow 3 (95th percentile 51.52 ms)
Run 2: Statistics of LEDBAT

End at: 2018-07-27 08:44:25
Local clock offset: 0.322 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2018-07-27 14:05:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 53.98 Mbit/s
  95th percentile per-packet one-way delay: 53.066 ms
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 34.97 Mbit/s
  95th percentile per-packet one-way delay: 52.772 ms
  Loss rate: 0.67%
-- Flow 2:
  Average throughput: 23.12 Mbit/s
  95th percentile per-packet one-way delay: 53.293 ms
  Loss rate: 1.02%
-- Flow 3:
  Average throughput: 11.20 Mbit/s
  95th percentile per-packet one-way delay: 53.538 ms
  Loss rate: 2.06%
Run 2: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 35.07 Mbit/s)
- Flow 1 egress (mean 34.97 Mbit/s)
- Flow 2 ingress (mean 23.24 Mbit/s)
- Flow 2 egress (mean 23.12 Mbit/s)
- Flow 3 ingress (mean 11.32 Mbit/s)
- Flow 3 egress (mean 11.20 Mbit/s)

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

- Flow 1 (95th percentile 52.77 ms)
- Flow 2 (95th percentile 53.29 ms)
- Flow 3 (95th percentile 53.54 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-07-27 09:08:02
End at: 2018-07-27 09:08:32
Local clock offset: 0.37 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.00 Mbit/s
95th percentile per-packet one-way delay: 52.485 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 35.36 Mbit/s
95th percentile per-packet one-way delay: 52.514 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 23.91 Mbit/s
95th percentile per-packet one-way delay: 52.289 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 52.915 ms
Loss rate: 2.04%
Run 3: Report of LEDBAT — Data Link

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

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

129
Run 4: Statistics of LEDBAT

Start at: 2018-07-27 09:32:09
End at: 2018-07-27 09:32:39
Local clock offset: -0.417 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.46 Mbit/s
95th percentile per-packet one-way delay: 52.860 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 34.56 Mbit/s
95th percentile per-packet one-way delay: 52.551 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 22.92 Mbit/s
95th percentile per-packet one-way delay: 53.640 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 53.941 ms
Loss rate: 2.07%
Run 4: Report of LEDBAT — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 34.68 Mbps)
- Flow 1 egress (mean 34.56 Mbps)
- Flow 2 ingress (mean 23.04 Mbps)
- Flow 2 egress (mean 22.92 Mbps)
- Flow 3 ingress (mean 11.37 Mbps)
- Flow 3 egress (mean 11.25 Mbps)

**Packet Delay (ms)**
- Flow 1 (95th percentile 52.55 ms)
- Flow 2 (95th percentile 53.64 ms)
- Flow 3 (95th percentile 53.94 ms)
Run 5: Statistics of LEDBAT

Start at: 2018-07-27 09:56:09
End at: 2018-07-27 09:56:39
Local clock offset: -0.449 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.37 Mbit/s
95th percentile per-packet one-way delay: 51.927 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 51.932 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 23.64 Mbit/s
95th percentile per-packet one-way delay: 51.949 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 11.86 Mbit/s
95th percentile per-packet one-way delay: 51.545 ms
Loss rate: 2.02%
Run 5: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 35.87 Mbit/s)**
- **Flow 1 egress (mean 35.75 Mbit/s)**
- **Flow 2 ingress (mean 23.76 Mbit/s)**
- **Flow 2 egress (mean 23.64 Mbit/s)**
- **Flow 3 ingress (mean 11.98 Mbit/s)**
- **Flow 3 egress (mean 11.86 Mbit/s)**

![Plot showing per-packet one-way delay at different times for each flow.]

- **Flow 1 (95th percentile 51.93 ms)**
- **Flow 2 (95th percentile 51.95 ms)**
- **Flow 3 (95th percentile 51.55 ms)**
Run 6: Statistics of LEDBAT

Start at: 2018-07-27 10:20:18
End at: 2018-07-27 10:20:48
Local clock offset: -0.39 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.36 Mbit/s
95th percentile per-packet one-way delay: 52.490 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 35.04 Mbit/s
95th percentile per-packet one-way delay: 52.387 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 23.52 Mbit/s
95th percentile per-packet one-way delay: 52.757 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 11.22 Mbit/s
95th percentile per-packet one-way delay: 52.184 ms
Loss rate: 2.07%
Run 6: Report of LEDBAT — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 35.16 Mbit/s)
- Flow 1 egress (mean 35.04 Mbit/s)
- Flow 2 ingress (mean 23.64 Mbit/s)
- Flow 2 egress (mean 23.52 Mbit/s)
- Flow 3 ingress (mean 11.34 Mbit/s)
- Flow 3 egress (mean 11.22 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 52.39 ms)
- Flow 2 (95th percentile 52.76 ms)
- Flow 3 (95th percentile 52.18 ms)
Run 7: Statistics of LEDBAT

End at: 2018-07-27 10:44:52
Local clock offset: -0.018 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.46 Mbit/s
95th percentile per-packet one-way delay: 52.515 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 26.97 Mbit/s
95th percentile per-packet one-way delay: 52.401 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 52.732 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 9.11 Mbit/s
95th percentile per-packet one-way delay: 52.367 ms
Loss rate: 2.29%
Run 7: Report of LEDBAT — Data Link
Run 8: Statistics of LEDBAT

End at: 2018-07-27 11:08:58
Local clock offset: -0.439 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 49.50 Mbit/s
  95th percentile per-packet one-way delay: 51.389 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 30.12 Mbit/s
  95th percentile per-packet one-way delay: 51.545 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 23.73 Mbit/s
  95th percentile per-packet one-way delay: 51.089 ms
  Loss rate: 1.00%
-- Flow 3:
  Average throughput: 11.13 Mbit/s
  95th percentile per-packet one-way delay: 50.795 ms
  Loss rate: 2.08%
Run 8: Report of LEDBAT — Data Link

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**Throughput (Mbps/s)**

- **Flow 1 ingress** (mean 30.24 Mbps/s)
- **Flow 1 egress** (mean 30.12 Mbps/s)
- **Flow 2 ingress** (mean 23.85 Mbps/s)
- **Flow 2 egress** (mean 23.73 Mbps/s)
- **Flow 3 ingress** (mean 11.24 Mbps/s)
- **Flow 3 egress** (mean 11.13 Mbps/s)

**Per packet round trip delay (ms)**

- **Flow 1** (95th percentile 51.55 ms)
- **Flow 2** (95th percentile 51.09 ms)
- **Flow 3** (95th percentile 50.80 ms)
Run 9: Statistics of LEDBAT

End at: 2018-07-27 11:33:08
Local clock offset: -0.47 ms
Remote clock offset: -0.187 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.11 Mbit/s
95th percentile per-packet one-way delay: 52.329 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 52.198 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 23.20 Mbit/s
95th percentile per-packet one-way delay: 52.697 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 51.819 ms
Loss rate: 2.00%
Run 10: Statistics of LEDBAT

Local clock offset: -0.141 ms
Remote clock offset: -0.216 ms

# Below is generated by plot.py at 2018-07-27 14:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.36 Mbit/s
95th percentile per-packet one-way delay: 51.746 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 28.74 Mbit/s
95th percentile per-packet one-way delay: 51.836 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 11.48 Mbit/s
95th percentile per-packet one-way delay: 51.404 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 51.448 ms
Loss rate: 2.75%
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-27 08:09:26
End at: 2018-07-27 08:09:56
Local clock offset: -0.506 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-07-27 14:06:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.04 Mbit/s
95th percentile per-packet one-way delay: 132.788 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 316.02 Mbit/s
95th percentile per-packet one-way delay: 133.038 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 130.588 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 16.12 Mbit/s
95th percentile per-packet one-way delay: 101.156 ms
Loss rate: 1.01%
Run 1: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 315.96 Mbit/s)
- Flow 1 egress (mean 316.02 Mbit/s)
- Flow 2 ingress (mean 38.91 Mbit/s)
- Flow 2 egress (mean 38.87 Mbit/s)
- Flow 3 ingress (mean 16.13 Mbit/s)
- Flow 3 egress (mean 16.12 Mbit/s)

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

- Flow 1 (95th percentile 133.04 ms)
- Flow 2 (95th percentile 130.59 ms)
- Flow 3 (95th percentile 101.16 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-27 08:33:32
End at: 2018-07-27 08:34:02
Local clock offset: 0.336 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-27 14:06:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.36 Mbit/s
95th percentile per-packet one-way delay: 150.850 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 269.25 Mbit/s
95th percentile per-packet one-way delay: 150.895 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 72.25 Mbit/s
95th percentile per-packet one-way delay: 151.107 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 149.753 ms
Loss rate: 2.09%
Run 2: Report of PCC-Allegro — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 270.46 Mbit/s)
Flow 1 egress (mean 269.25 Mbit/s)
Flow 2 ingress (mean 72.68 Mbit/s)
Flow 2 egress (mean 72.25 Mbit/s)
Flow 3 ingress (mean 31.48 Mbit/s)
Flow 3 egress (mean 31.14 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 150.90 ms)
Flow 2 (95th percentile 151.11 ms)
Flow 3 (95th percentile 149.75 ms)
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-27 08:57:37
End at: 2018-07-27 08:58:07
Local clock offset: -0.319 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-07-27 14:06:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.98 Mbit/s
95th percentile per-packet one-way delay: 166.782 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 303.25 Mbit/s
95th percentile per-packet one-way delay: 166.504 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 9.50 Mbit/s
95th percentile per-packet one-way delay: 167.603 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 185.043 ms
Loss rate: 1.82%
Run 3: Report of PCC-Allegro — Data Link

![Graph showing throughput and per-packet one-way delay for Run 3 with data points and line segments representing different flow rates and delays.]

149
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-27 09:21:46
End at: 2018-07-27 09:22:16
Local clock offset: -0.456 ms
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2018-07-27 14:06:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 322.30 Mbit/s
  95th percentile per-packet one-way delay: 156.872 ms
  Loss rate: 0.41%
-- Flow 1:
  Average throughput: 280.80 Mbit/s
  95th percentile per-packet one-way delay: 156.767 ms
  Loss rate: 0.39%
-- Flow 2:
  Average throughput: 60.47 Mbit/s
  95th percentile per-packet one-way delay: 157.498 ms
  Loss rate: 0.53%
-- Flow 3:
  Average throughput: 4.30 Mbit/s
  95th percentile per-packet one-way delay: 155.325 ms
  Loss rate: 1.11%
Run 4: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 280.96 Mbps)
- Flow 1 egress (mean 280.96 Mbps)
- Flow 2 ingress (mean 60.48 Mbps)
- Flow 2 egress (mean 60.47 Mbps)
- Flow 3 ingress (mean 4.30 Mbps)
- Flow 3 egress (mean 4.29 Mbps)

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

- Flow 1 (95th percentile 156.77 ms)
- Flow 2 (95th percentile 157.50 ms)
- Flow 3 (95th percentile 155.32 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-27 09:45:39
End at: 2018-07-27 09:46:09
Local clock offset: -0.069 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2018-07-27 14:07:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 342.08 Mbit/s
  95th percentile per-packet one-way delay: 233.125 ms
  Loss rate: 1.43%
-- Flow 1:
  Average throughput: 303.95 Mbit/s
  95th percentile per-packet one-way delay: 233.019 ms
  Loss rate: 1.38%
-- Flow 2:
  Average throughput: 56.42 Mbit/s
  95th percentile per-packet one-way delay: 233.683 ms
  Loss rate: 1.76%
-- Flow 3:
  Average throughput: 2.09 Mbit/s
  95th percentile per-packet one-way delay: 234.461 ms
  Loss rate: 6.84%
Run 5: Report of PCC-Allegro — Data Link
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-27 10:09:52
End at: 2018-07-27 10:10:22
Local clock offset: 0.316 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-27 14:08:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 315.32 Mbit/s
  95th percentile per-packet one-way delay: 132.693 ms
  Loss rate: 0.43%
-- Flow 1:
  Average throughput: 273.26 Mbit/s
  95th percentile per-packet one-way delay: 132.775 ms
  Loss rate: 0.41%
-- Flow 2:
  Average throughput: 59.33 Mbit/s
  95th percentile per-packet one-way delay: 132.022 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 8.23 Mbit/s
  95th percentile per-packet one-way delay: 132.774 ms
  Loss rate: 1.13%
Run 6: Report of PCC-Allegro — Data Link
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-27 10:34:00
End at: 2018-07-27 10:34:30
Local clock offset: -0.381 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-07-27 14:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.65 Mbit/s
95th percentile per-packet one-way delay: 92.615 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 290.75 Mbit/s
95th percentile per-packet one-way delay: 92.978 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 36.72 Mbit/s
95th percentile per-packet one-way delay: 89.707 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 16.89 Mbit/s
95th percentile per-packet one-way delay: 74.677 ms
Loss rate: 1.18%
Run 7: Report of PCC-Allegro — Data Link
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-27 10:58:04
End at: 2018-07-27 10:58:34
Local clock offset: -0.433 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-07-27 14:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.14 Mbit/s
95th percentile per-packet one-way delay: 107.754 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 292.37 Mbit/s
95th percentile per-packet one-way delay: 107.515 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 17.18 Mbit/s
95th percentile per-packet one-way delay: 104.313 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 31.65 Mbit/s
95th percentile per-packet one-way delay: 113.659 ms
Loss rate: 1.14%
Run 9: Statistics of PCC-Allegro

Local clock offset: 0.242 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2018-07-27 14:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 339.90 Mbit/s
95th percentile per-packet one-way delay: 184.398 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 326.55 Mbit/s
95th percentile per-packet one-way delay: 184.138 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 184.668 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 32.41 Mbit/s
95th percentile per-packet one-way delay: 193.297 ms
Loss rate: 2.31%
Run 9: Report of PCC-Allegro — Data Link

![Graph of Throughput (Mbps) over time for different flows]

- Flow 1 ingress (mean 327.81 Mbps)
- Flow 1 egress (mean 326.55 Mbps)
- Flow 2 ingress (mean 4.17 Mbps)
- Flow 2 egress (mean 4.15 Mbps)
- Flow 3 ingress (mean 32.64 Mbps)
- Flow 3 egress (mean 32.41 Mbps)

![Graph of Per-packet one-way delay (ms) over time for different flows]

- Flow 1 (95th percentile 184.14 ms)
- Flow 2 (95th percentile 184.67 ms)
- Flow 3 (95th percentile 193.30 ms)
Run 10: Statistics of PCC-Allegro

Local clock offset: -0.154 ms
Remote clock offset: -0.185 ms

# Below is generated by plot.py at 2018-07-27 14:12:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.49 Mbit/s
95th percentile per-packet one-way delay: 224.832 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 305.33 Mbit/s
95th percentile per-packet one-way delay: 224.765 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 61.61 Mbit/s
95th percentile per-packet one-way delay: 225.163 ms
Loss rate: 2.21%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 225.878 ms
Loss rate: 5.80%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-07-27 08:12:05
End at: 2018-07-27 08:12:35
Local clock offset: -0.109 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-27 14:17:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.35 Mbit/s
95th percentile per-packet one-way delay: 208.907 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 218.76 Mbit/s
95th percentile per-packet one-way delay: 206.337 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 162.94 Mbit/s
95th percentile per-packet one-way delay: 210.750 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 210.231 ms
Loss rate: 7.85%
Run 1: Report of PCC-Expr — Data Link

![Graph showing throughput and delay for different flows]

- Flow 1 ingress (mean 222.23 Mbit/s)
- Flow 1 egress (mean 218.76 Mbit/s)
- Flow 2 ingress (mean 168.23 Mbit/s)
- Flow 2 egress (mean 162.94 Mbit/s)
- Flow 3 ingress (mean 4.67 Mbit/s)
- Flow 3 egress (mean 4.25 Mbit/s)

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

- Flow 1 (95th percentile 206.34 ms)
- Flow 2 (95th percentile 210.75 ms)
- Flow 3 (95th percentile 210.23 ms)
Run 2: Statistics of PCC-Expr

Start at: 2018-07-27 08:36:13
End at: 2018-07-27 08:36:43
Local clock offset: -0.04 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-07-27 14:17:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 317.21 Mbit/s
  95th percentile per-packet one-way delay: 207.403 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 206.77 Mbit/s
  95th percentile per-packet one-way delay: 196.954 ms
  Loss rate: 0.70%
-- Flow 2:
  Average throughput: 162.61 Mbit/s
  95th percentile per-packet one-way delay: 210.187 ms
  Loss rate: 1.28%
-- Flow 3:
  Average throughput: 7.66 Mbit/s
  95th percentile per-packet one-way delay: 211.679 ms
  Loss rate: 1.93%
Run 2: Report of PCC-Expr — Data Link

---

**Throughput (Mbps)**

- Flow 1 ingress (mean 207.52 Mbps)
- Flow 1 egress (mean 206.77 Mbps)
- Flow 2 ingress (mean 163.90 Mbps)
- Flow 2 egress (mean 162.61 Mbps)
- Flow 3 ingress (mean 7.74 Mbps)
- Flow 3 egress (mean 7.66 Mbps)

---

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

- Flow 1 (95th percentile 196.95 ms)
- Flow 2 (95th percentile 210.19 ms)
- Flow 3 (95th percentile 211.68 ms)
Run 3: Statistics of PCC-Expr

Start at: 2018-07-27 09:00:18
End at: 2018-07-27 09:00:48
Local clock offset: 0.007 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-07-27 14:17:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 266.71 Mbit/s
  95th percentile per-packet one-way delay: 211.072 ms
  Loss rate: 1.29%
-- Flow 1:
  Average throughput: 162.57 Mbit/s
  95th percentile per-packet one-way delay: 188.722 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 133.28 Mbit/s
  95th percentile per-packet one-way delay: 224.657 ms
  Loss rate: 1.60%
-- Flow 3:
  Average throughput: 47.81 Mbit/s
  95th percentile per-packet one-way delay: 231.381 ms
  Loss rate: 3.07%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2018-07-27 09:24:24
End at: 2018-07-27 09:24:54
Local clock offset: -0.047 ms
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2018-07-27 14:25:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.15 Mbit/s
95th percentile per-packet one-way delay: 345.278 ms
Loss rate: 28.21%
-- Flow 1:
Average throughput: 363.45 Mbit/s
95th percentile per-packet one-way delay: 345.341 ms
Loss rate: 28.26%
-- Flow 2:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 229.157 ms
Loss rate: 21.62%
-- Flow 3:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 228.905 ms
Loss rate: 17.48%
Run 4: Report of PCC-Expr — Data Link

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

- **Flow 1 Ingress** (mean 504.94 Mbit/s)
- **Flow 1 Egress** (mean 363.45 Mbit/s)
- **Flow 2 Ingress** (mean 330 Mbit/s)
- **Flow 2 Egress** (mean 2.60 Mbit/s)
- **Flow 3 Ingress** (mean 3.96 Mbit/s)
- **Flow 3 Egress** (mean 2.07 Mbit/s)

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

- **Flow 1** (95th percentile 345.34 ms)
- **Flow 2** (95th percentile 229.16 ms)
- **Flow 3** (95th percentile 228.91 ms)
Run 5: Statistics of PCC-Expr

End at: 2018-07-27 09:48:51
Local clock offset: -0.075 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2018-07-27 14:25:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 283.53 Mbit/s
  95th percentile per-packet one-way delay: 55.624 ms
  Loss rate: 0.43%
-- Flow 1:
  Average throughput: 199.39 Mbit/s
  95th percentile per-packet one-way delay: 56.613 ms
  Loss rate: 0.14%
-- Flow 2:
  Average throughput: 91.36 Mbit/s
  95th percentile per-packet one-way delay: 52.845 ms
  Loss rate: 0.83%
-- Flow 3:
  Average throughput: 71.61 Mbit/s
  95th percentile per-packet one-way delay: 52.647 ms
  Loss rate: 1.78%
Run 5: Report of PCC-Expr — Data Link
Run 6: Statistics of PCC-Expr

Start at: 2018-07-27 10:12:33
End at: 2018-07-27 10:13:03
Local clock offset: -0.081 ms
Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2018-07-27 14:25:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.74 Mbit/s
95th percentile per-packet one-way delay: 217.204 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 184.16 Mbit/s
95th percentile per-packet one-way delay: 216.493 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 134.90 Mbit/s
95th percentile per-packet one-way delay: 222.323 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 61.13 Mbit/s
95th percentile per-packet one-way delay: 53.264 ms
Loss rate: 1.42%
Run 6: Report of PCC-Expr — Data Link
Run 7: Statistics of PCC-Expr

Start at: 2018-07-27 10:36:42
End at: 2018-07-27 10:37:12
Local clock offset: 0.378 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-07-27 14:25:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 297.78 Mbit/s
  95th percentile per-packet one-way delay: 262.231 ms
  Loss rate: 6.50%
-- Flow 1:
  Average throughput: 271.20 Mbit/s
  95th percentile per-packet one-way delay: 266.665 ms
  Loss rate: 6.65%
-- Flow 2:
  Average throughput: 37.40 Mbit/s
  95th percentile per-packet one-way delay: 226.852 ms
  Loss rate: 5.05%
-- Flow 3:
  Average throughput: 5.37 Mbit/s
  95th percentile per-packet one-way delay: 226.456 ms
  Loss rate: 4.54%
Run 7: Report of PCC-Expr — Data Link
Run 8: Statistics of PCC-Expr

Start at: 2018-07-27 11:00:38
End at: 2018-07-27 11:01:08
Local clock offset: -0.057 ms
Remote clock offset: -0.047 ms

# Below is generated by plot.py at 2018-07-27 14:25:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 320.96 Mbit/s
  95th percentile per-packet one-way delay: 223.701 ms
  Loss rate: 5.14%
-- Flow 1:
  Average throughput: 186.15 Mbit/s
  95th percentile per-packet one-way delay: 205.407 ms
  Loss rate: 2.12%
-- Flow 2:
  Average throughput: 201.17 Mbit/s
  95th percentile per-packet one-way delay: 260.751 ms
  Loss rate: 9.02%
-- Flow 3:
  Average throughput: 3.78 Mbit/s
  95th percentile per-packet one-way delay: 213.262 ms
  Loss rate: 9.41%
Run 8: Report of PCC-Expr — Data Link

![Graph of Throughput (Mbps) over Time (s)](image1)

Legend:
- Flow 1 ingress (mean 189.53 Mbps)
- Flow 2 ingress (mean 219.98 Mbps)
- Flow 3 ingress (mean 4.13 Mbps)
- Flow 1 egress (mean 186.15 Mbps)
- Flow 2 egress (mean 201.17 Mbps)
- Flow 3 egress (mean 3.78 Mbps)

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

Legend:
- Flow 1 (95th percentile 205.41 ms)
- Flow 2 (95th percentile 260.75 ms)
- Flow 3 (95th percentile 213.26 ms)
Run 9: Statistics of PCC-Expr

Start at: 2018-07-27 11:24:46
End at: 2018-07-27 11:25:16
Local clock offset: -0.496 ms
Remote clock offset: -0.142 ms

# Below is generated by plot.py at 2018-07-27 14:27:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.88 Mbit/s
95th percentile per-packet one-way delay: 55.659 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 219.16 Mbit/s
95th percentile per-packet one-way delay: 55.976 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 79.99 Mbit/s
95th percentile per-packet one-way delay: 53.756 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 14.07 Mbit/s
95th percentile per-packet one-way delay: 51.973 ms
Loss rate: 2.68%
Run 9: Report of PCC-Expr — Data Link

![Graph of Throughput and Latency](image)

- **Throughput**
  - Flow 1 ingress (mean 218.80 Mbit/s)
  - Flow 1 egress (mean 219.16 Mbit/s)
  - Flow 2 ingress (mean 80.14 Mbit/s)
  - Flow 2 egress (mean 79.99 Mbit/s)
  - Flow 3 ingress (mean 14.31 Mbit/s)
  - Flow 3 egress (mean 14.07 Mbit/s)

- **Latency**
  - Flow 1 (95th percentile 55.98 ms)
  - Flow 2 (95th percentile 53.76 ms)
  - Flow 3 (95th percentile 51.97 ms)
Run 10: Statistics of PCC-Expr

Local clock offset: -0.158 ms
Remote clock offset: -0.196 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.45 Mbit/s
95th percentile per-packet one-way delay: 201.030 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 179.06 Mbit/s
95th percentile per-packet one-way delay: 199.780 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 130.63 Mbit/s
95th percentile per-packet one-way delay: 201.277 ms
Loss rate: 2.54%
-- Flow 3:
Average throughput: 72.27 Mbit/s
95th percentile per-packet one-way delay: 203.861 ms
Loss rate: 5.03%
Run 10: Report of PCC-Expr — Data Link

![Graph 1](image1)

![Graph 2](image2)
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-27 08:08:11  
End at: 2018-07-27 08:08:41  
Local clock offset: -0.143 ms  
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-07-27 14:29:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 133.66 Mbit/s  
95th percentile per-packet one-way delay: 50.772 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 68.16 Mbit/s  
95th percentile per-packet one-way delay: 50.768 ms  
Loss rate: 0.30%  
-- Flow 2:  
Average throughput: 66.59 Mbit/s  
95th percentile per-packet one-way delay: 51.374 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 57.56 Mbit/s  
95th percentile per-packet one-way delay: 50.224 ms  
Loss rate: 0.33%
Run 1: Report of QUIC Cubic — Data Link

![Graph 1: Throughput Over Time]

Flow 1 ingress (mean 68.13 Mbit/s) — Flow 1 egress (mean 68.16 Mbit/s)
Flow 2 ingress (mean 66.56 Mbit/s) — Flow 2 egress (mean 66.59 Mbit/s)
Flow 3 ingress (mean 57.16 Mbit/s) — Flow 3 egress (mean 57.56 Mbit/s)

![Graph 2: Per-Packet Round Trip Time]

Flow 1 (95th percentile 50.77 ms) — Flow 2 (95th percentile 51.37 ms) — Flow 3 (95th percentile 50.22 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-27 08:32:17
End at: 2018-07-27 08:32:47
Local clock offset: -0.417 ms
Remote clock offset: -0.047 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 133.99 Mbit/s
  95th percentile per-packet one-way delay: 50.283 ms
  Loss rate: 0.46%
-- Flow 1:
  Average throughput: 71.82 Mbit/s
  95th percentile per-packet one-way delay: 50.317 ms
  Loss rate: 0.28%
-- Flow 2:
  Average throughput: 65.74 Mbit/s
  95th percentile per-packet one-way delay: 48.395 ms
  Loss rate: 0.47%
-- Flow 3:
  Average throughput: 56.27 Mbit/s
  95th percentile per-packet one-way delay: 48.437 ms
  Loss rate: 1.12%
Run 2: Report of QUIC Cubic — Data Link

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

- **Flow 1 ingress (mean 71.78 Mbit/s)**
- **Flow 1 egress (mean 71.82 Mbit/s)**
- **Flow 2 ingress (mean 65.72 Mbit/s)**
- **Flow 2 egress (mean 65.74 Mbit/s)**
- **Flow 3 ingress (mean 56.35 Mbit/s)**
- **Flow 3 egress (mean 56.27 Mbit/s)**

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187
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-27 08:56:22
End at: 2018-07-27 08:56:52
Local clock offset: 0.019 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.42 Mbit/s
95th percentile per-packet one-way delay: 50.738 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 72.31 Mbit/s
95th percentile per-packet one-way delay: 50.711 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 64.65 Mbit/s
95th percentile per-packet one-way delay: 50.762 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 46.23 Mbit/s
95th percentile per-packet one-way delay: 50.763 ms
Loss rate: 1.19%
Run 3: Report of QUIC Cubic — Data Link

---

**Throughput (Mbps):**

- **Flow 1 ingress (mean 72.36 Mbit/s)**
- **Flow 1 egress (mean 72.31 Mbit/s)**
- **Flow 2 ingress (mean 64.68 Mbit/s)**
- **Flow 2 egress (mean 64.65 Mbit/s)**
- **Flow 3 ingress (mean 46.31 Mbit/s)**
- **Flow 3 egress (mean 46.23 Mbit/s)**

---

**Per-packet round-trip delay (ms):**

- **Flow 1 (95th percentile 50.71 ms)**
- **Flow 2 (95th percentile 50.76 ms)**
- **Flow 3 (95th percentile 50.76 ms)**

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189
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-27 09:20:31
End at: 2018-07-27 09:21:01
Local clock offset: -0.415 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 130.53 Mbit/s
  95th percentile per-packet one-way delay: 50.849 ms
  Loss rate: 0.55%
-- Flow 1:
  Average throughput: 72.53 Mbit/s
  95th percentile per-packet one-way delay: 51.044 ms
  Loss rate: 0.39%
-- Flow 2:
  Average throughput: 64.15 Mbit/s
  95th percentile per-packet one-way delay: 50.913 ms
  Loss rate: 0.58%
-- Flow 3:
  Average throughput: 46.95 Mbit/s
  95th percentile per-packet one-way delay: 50.188 ms
  Loss rate: 1.23%
Run 4: Report of QUIC Cubic — Data Link

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

- **Flow 1 Ingress (mean 72.57 Mbps)**
- **Flow 1 Egress (mean 72.53 Mbps)**
- **Flow 2 Ingress (mean 64.20 Mbps)**
- **Flow 2 Egress (mean 64.15 Mbps)**
- **Flow 3 Ingress (mean 47.06 Mbps)**
- **Flow 3 Egress (mean 46.95 Mbps)**

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

- **Flow 1 (95th percentile 51.04 ms)**
- **Flow 2 (95th percentile 50.91 ms)**
- **Flow 3 (95th percentile 50.19 ms)**
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-27 09:44:24
End at: 2018-07-27 09:44:54
Local clock offset: -0.071 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 126.89 Mbit/s
  95th percentile per-packet one-way delay: 50.697 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 70.48 Mbit/s
  95th percentile per-packet one-way delay: 50.639 ms
  Loss rate: 0.36%
-- Flow 2:
  Average throughput: 61.85 Mbit/s
  95th percentile per-packet one-way delay: 50.648 ms
  Loss rate: 0.54%
-- Flow 3:
  Average throughput: 46.85 Mbit/s
  95th percentile per-packet one-way delay: 50.774 ms
  Loss rate: 1.30%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-27 10:08:37
End at: 2018-07-27 10:09:07
Local clock offset: -0.436 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 129.99 Mbit/s
95th percentile per-packet one-way delay: 50.422 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 67.81 Mbit/s
95th percentile per-packet one-way delay: 50.347 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 68.02 Mbit/s
95th percentile per-packet one-way delay: 50.473 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 51.78 Mbit/s
95th percentile per-packet one-way delay: 50.151 ms
Loss rate: 1.72%
Run 6: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 67.75 Mbit/s)
Flow 1 egress (mean 67.81 Mbit/s)
Flow 2 ingress (mean 68.00 Mbit/s)
Flow 2 egress (mean 68.02 Mbit/s)
Flow 3 ingress (mean 52.14 Mbit/s)
Flow 3 egress (mean 51.78 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 50.35 ms)
Flow 2 (95th percentile 50.47 ms)
Flow 3 (95th percentile 50.15 ms)
Run 7: Statistics of QUIC Cubic

End at: 2018-07-27 10:33:14
Local clock offset: 0.324 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.28 Mbit/s
95th percentile per-packet one-way delay: 51.037 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 71.74 Mbit/s
95th percentile per-packet one-way delay: 51.073 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 67.42 Mbit/s
95th percentile per-packet one-way delay: 49.866 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 51.82 Mbit/s
95th percentile per-packet one-way delay: 50.589 ms
Loss rate: 1.15%
Run 7: Report of QUIC Cubic — Data Link

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

Legend:
- Flow 1 ingress (mean 71.77 Mbit/s)
- Flow 1 egress (mean 71.74 Mbit/s)
- Flow 2 ingress (mean 67.49 Mbit/s)
- Flow 2 egress (mean 67.42 Mbit/s)
- Flow 3 ingress (mean 51.88 Mbit/s)
- Flow 3 egress (mean 51.62 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 51.07 ms)
- Flow 2 (95th percentile 49.87 ms)
- Flow 3 (95th percentile 50.59 ms)
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-27 10:56:49
End at: 2018-07-27 10:57:19
Local clock offset: 0.31 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.01 Mbit/s
95th percentile per-packet one-way delay: 50.915 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 69.51 Mbit/s
95th percentile per-packet one-way delay: 49.987 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 67.07 Mbit/s
95th percentile per-packet one-way delay: 49.853 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 48.70 Mbit/s
95th percentile per-packet one-way delay: 51.039 ms
Loss rate: 1.26%
Run 8: Report of QUIC Cubic — Data Link
Run 9: Statistics of QUIC Cubic

Local clock offset: -0.126 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 124.99 Mbit/s
  95th percentile per-packet one-way delay: 50.836 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 61.58 Mbit/s
  95th percentile per-packet one-way delay: 50.877 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 67.27 Mbit/s
  95th percentile per-packet one-way delay: 50.489 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 57.07 Mbit/s
  95th percentile per-packet one-way delay: 50.670 ms
  Loss rate: 1.03%
Run 9: Report of QUIC Cubic — Data Link

![Graph 1](image1)

**Legend for Graph 1:**
- Blue dashed line: Flow 1 ingress (mean 61.57 Mbps)
- Blue solid line: Flow 1 egress (mean 61.58 Mbps)
- Green dashed line: Flow 2 ingress (mean 67.35 Mbps)
- Green solid line: Flow 2 egress (mean 67.27 Mbps)
- Red dashed line: Flow 3 ingress (mean 57.06 Mbps)
- Red solid line: Flow 3 egress (mean 57.07 Mbps)

![Graph 2](image2)

**Legend for Graph 2:**
- Blue filled circle: Flow 1 (95th percentile 50.88 ms)
- Green filled circle: Flow 2 (95th percentile 50.49 ms)
- Red filled circle: Flow 3 (95th percentile 50.67 ms)
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-27 11:45:13
End at: 2018-07-27 11:45:43
Local clock offset: 0.227 ms
Remote clock offset: -0.228 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.18 Mbit/s
95th percentile per-packet one-way delay: 51.096 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 64.57 Mbit/s
95th percentile per-packet one-way delay: 50.773 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 58.66 Mbit/s
95th percentile per-packet one-way delay: 51.196 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 53.99 Mbit/s
95th percentile per-packet one-way delay: 51.106 ms
Loss rate: 1.29%
Run 10: Report of QUIC Cubic — Data Link

[Graph showing throughput and packet round-trip delay over time for different flows with mean rates and 95th percentile delays indicated]
Run 1: Statistics of SCReAM

Start at: 2018-07-27 08:29:42
End at: 2018-07-27 08:30:12
Local clock offset: -0.427 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 49.627 ms
  Loss rate: 0.51%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 49.603 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 48.579 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 49.965 ms
  Loss rate: 1.08%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2018-07-27 08:53:50
End at: 2018-07-27 08:54:20
Local clock offset: 0.054 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 51.005 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 51.033 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 49.017 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 48.964 ms
  Loss rate: 1.08%
Run 2: Report of SCReAM — Data Link

[Graphs showing data link throughput and per-packet one-way delay over time for three flows, each with 95th percentile values provided.]
Run 3: Statistics of SCReAM

Start at: 2018-07-27 09:17:58
End at: 2018-07-27 09:18:28
Local clock offset: -0.34 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.596 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.635 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.516 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.602 ms
Loss rate: 1.09%
Run 3: Report of SCReAM — Data Link

![Graph showing network throughput and packet delay over time for different flows.]
Run 4: Statistics of SCReAM

Start at: 2018-07-27 09:41:51
End at: 2018-07-27 09:42:21
Local clock offset: -0.057 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 50.839 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.715 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.867 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.695 ms
  Loss rate: 1.09%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2018-07-27 10:06:05
End at: 2018-07-27 10:06:35
Local clock offset: 0.256 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.247 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.252 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.184 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.284 ms
Loss rate: 1.08%
Run 5: Report of SCReAM — Data Link

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

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

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

Legend:
- Flow 1 (95th percentile 51.25 ms)
- Flow 2 (95th percentile 51.18 ms)
- Flow 3 (95th percentile 51.28 ms)
Run 6: Statistics of SCReAM

Start at: 2018-07-27 10:30:16
End at: 2018-07-27 10:30:46
Local clock offset: -0.032 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.919 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.899 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.950 ms
Loss rate: 1.09%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-07-27 10:54:19
End at: 2018-07-27 10:54:49
Local clock offset: -0.396 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 50.175 ms
  Loss rate: 0.51%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.229 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.200 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.079 ms
  Loss rate: 1.09%
Run 7: Report of SCReAM — Data Link
Run 8: Statistics of SCReAM

End at: 2018-07-27 11:18:51
Local clock offset: 0.267 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.326 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.360 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.421 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.326 ms
Loss rate: 1.09%
Run 8: Report of SCReAM — Data Link

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**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)**

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

- **Flow 1 (95th percentile 51.36 ms)**
- **Flow 2 (95th percentile 50.42 ms)**
- **Flow 3 (95th percentile 50.33 ms)**

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219
Run 9: Statistics of SCReAM

End at: 2018-07-27 11:43:12
Local clock offset: -0.164 ms
Remote clock offset: -0.148 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.047 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.070 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.988 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.033 ms
Loss rate: 1.09%
Run 9: Report of SCReAM — Data Link
Run 10: Statistics of SCReAM

Start at: 2018-07-27 12:07:03
End at: 2018-07-27 12:07:33
Local clock offset: -0.428 ms
Remote clock offset: -0.233 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 50.626 ms
  Loss rate: 0.51%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 49.424 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.710 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.156 ms
  Loss rate: 1.09%
Run 10: Report of SCReAM — Data Link

![Graph showing throughputs and per-packet one-way delays over time]

Throughputs (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 delays (ms):
- Flow 1 (95th percentile 49.42 ms)
- Flow 2 (95th percentile 50.71 ms)
- Flow 3 (95th percentile 50.16 ms)
Run 1: Statistics of Sprout

Start at: 2018-07-27 08:18:35
End at: 2018-07-27 08:19:05
Local clock offset: 0.161 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.99 Mbit/s
95th percentile per-packet one-way delay: 52.002 ms
Loss rate: 0.49%

-- Flow 1:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 51.912 ms
Loss rate: 0.24%

-- Flow 2:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 52.050 ms
Loss rate: 0.64%

-- Flow 3:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 52.145 ms
Loss rate: 0.97%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-07-27 08:42:46
End at: 2018-07-27 08:43:16
Local clock offset: 0.011 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.40 Mbit/s
95th percentile per-packet one-way delay: 51.518 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 51.495 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 51.521 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 51.552 ms
Loss rate: 0.87%
Run 2: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 7.03 Mbit/s)**
- **Flow 1 egress (mean 7.03 Mbit/s)**
- **Flow 2 ingress (mean 7.66 Mbit/s)**
- **Flow 2 egress (mean 7.66 Mbit/s)**
- **Flow 3 ingress (mean 6.97 Mbit/s)**
- **Flow 3 egress (mean 6.97 Mbit/s)**

![Graph of Packet End-to-End Delay vs Time](image2.png)

- **Flow 1 (95th percentile 51.49 ms)**
- **Flow 2 (95th percentile 51.52 ms)**
- **Flow 3 (95th percentile 51.55 ms)**
Run 3: Statistics of Sprout

Start at: 2018-07-27 09:06:53
End at: 2018-07-27 09:07:23
Local clock offset: -0.407 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.77 Mbit/s
95th percentile per-packet one-way delay: 51.265 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 51.286 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 51.263 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 51.090 ms
Loss rate: 1.47%
Run 4: Statistics of Sprout

Start at: 2018-07-27 09:31:00
End at: 2018-07-27 09:31:30
Local clock offset: -0.053 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.96 Mbit/s
95th percentile per-packet one-way delay: 51.654 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 51.692 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 51.640 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 6.32 Mbit/s
95th percentile per-packet one-way delay: 51.577 ms
Loss rate: 0.70%
Run 5: Statistics of Sprout

Start at: 2018-07-27 09:55:00
End at: 2018-07-27 09:55:30
Local clock offset: -0.13 ms
Remote clock offset: 0.013 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.13 Mbit/s
95th percentile per-packet one-way delay: 51.566 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 7.13 Mbit/s
95th percentile per-packet one-way delay: 51.570 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 5.91 Mbit/s
95th percentile per-packet one-way delay: 51.427 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 51.832 ms
Loss rate: 0.53%
Run 5: Report of Sprout — Data Link

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

Start at: 2018-07-27 10:19:09
End at: 2018-07-27 10:19:39
Local clock offset: -0.386 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 51.343 ms
Loss rate: 0.76%
-- Flow 1:
  Average throughput: 6.26 Mbit/s
  95th percentile per-packet one-way delay: 51.310 ms
  Loss rate: 0.41%
-- Flow 2:
  Average throughput: 5.82 Mbit/s
  95th percentile per-packet one-way delay: 51.289 ms
  Loss rate: 0.85%
-- Flow 3:
  Average throughput: 6.24 Mbit/s
  95th percentile per-packet one-way delay: 51.460 ms
  Loss rate: 1.66%
Run 6: Report of Sprout — Data Link

![Graph showing throughput over time for different flows with Mean Throughput values.

![Graph showing packet delay over time for different flows with 95th percentile delay values.](image-url)
Run 7: Statistics of Sprout

End at: 2018-07-27 10:43:43
Local clock offset: -0.018 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.90 Mbit/s
95th percentile per-packet one-way delay: 51.577 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 51.626 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 51.100 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 51.481 ms
Loss rate: 1.15%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Start at: 2018-07-27 11:07:18
End at: 2018-07-27 11:07:48
Local clock offset: -0.455 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.94 Mbit/s
  95th percentile per-packet one-way delay: 51.174 ms
  Loss rate: 0.39%
-- Flow 1:
  Average throughput: 7.08 Mbit/s
  95th percentile per-packet one-way delay: 51.036 ms
  Loss rate: 0.36%
-- Flow 2:
  Average throughput: 6.58 Mbit/s
  95th percentile per-packet one-way delay: 51.201 ms
  Loss rate: 0.23%
-- Flow 3:
  Average throughput: 7.60 Mbit/s
  95th percentile per-packet one-way delay: 51.422 ms
  Loss rate: 0.75%
Run 9: Statistics of Sprout

Local clock offset: -0.531 ms
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 14.22 Mbit/s
  95th percentile per-packet one-way delay: 50.438 ms
  Loss rate: 0.54%
-- Flow 1:
  Average throughput: 7.22 Mbit/s
  95th percentile per-packet one-way delay: 50.553 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 7.12 Mbit/s
  95th percentile per-packet one-way delay: 50.219 ms
  Loss rate: 0.36%
-- Flow 3:
  Average throughput: 6.94 Mbit/s
  95th percentile per-packet one-way delay: 49.983 ms
  Loss rate: 1.54%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

End at: 2018-07-27 11:56:16
Local clock offset: -0.113 ms
Remote clock offset: -0.187 ms

# Below is generated by plot.py at 2018-07-27 14:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 51.033 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 51.179 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 5.17 Mbit/s
95th percentile per-packet one-way delay: 50.813 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 50.872 ms
Loss rate: 1.45%
Run 10: Report of Sprout — Data Link

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

Start at: 2018-07-27 08:23:32
End at: 2018-07-27 08:24:02
Local clock offset: -0.143 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.27 Mbit/s
95th percentile per-packet one-way delay: 51.766 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 169.03 Mbit/s
95th percentile per-packet one-way delay: 50.788 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 73.81 Mbit/s
95th percentile per-packet one-way delay: 53.440 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 53.367 ms
Loss rate: 0.21%
Run 1: Report of TaoVA-100x — Data Link

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

Legend:
- Flow 1 ingress (mean 168.39 Mbit/s)
- Flow 1 egress (mean 169.03 Mbit/s)
- Flow 2 ingress (mean 73.73 Mbit/s)
- Flow 2 egress (mean 73.81 Mbit/s)
- Flow 3 ingress (mean 82.38 Mbit/s)
- Flow 3 egress (mean 83.04 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 50.79 ms)
- Flow 2 (95th percentile 53.44 ms)
- Flow 3 (95th percentile 53.37 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-27 08:47:44
End at: 2018-07-27 08:48:14
Local clock offset: 0.041 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.63 Mbit/s
95th percentile per-packet one-way delay: 52.941 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 113.07 Mbit/s
95th percentile per-packet one-way delay: 52.053 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 148.92 Mbit/s
95th percentile per-packet one-way delay: 53.536 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 40.97 Mbit/s
95th percentile per-packet one-way delay: 56.552 ms
Loss rate: 0.33%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-27 09:11:50
End at: 2018-07-27 09:12:20
Local clock offset: -0.416 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.15 Mbit/s
95th percentile per-packet one-way delay: 54.239 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 114.85 Mbit/s
95th percentile per-packet one-way delay: 53.580 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 55.250 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 71.29 Mbit/s
95th percentile per-packet one-way delay: 55.989 ms
Loss rate: 0.18%
Run 3: Report of TaoVA-100x — Data Link

![Graph showing throughput and per-packet one-way latency over time for different flow ingress and egress rates.](#)
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-27 09:35:57
End at: 2018-07-27 09:36:28
Local clock offset: -0.45 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 235.61 Mbit/s
  95th percentile per-packet one-way delay: 53.556 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 95.56 Mbit/s
  95th percentile per-packet one-way delay: 54.501 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 147.42 Mbit/s
  95th percentile per-packet one-way delay: 52.412 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 127.67 Mbit/s
  95th percentile per-packet one-way delay: 54.141 ms
  Loss rate: 0.00%
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-27 09:59:57
End at: 2018-07-27 10:00:27
Local clock offset: -0.136 ms
Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.50 Mbit/s
95th percentile per-packet one-way delay: 54.688 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 125.13 Mbit/s
95th percentile per-packet one-way delay: 53.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 124.53 Mbit/s
95th percentile per-packet one-way delay: 55.644 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 29.00 Mbit/s
95th percentile per-packet one-way delay: 62.637 ms
Loss rate: 0.46%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-27 10:24:06
End at: 2018-07-27 10:24:36
Local clock offset: 0.315 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.25 Mbit/s
95th percentile per-packet one-way delay: 54.617 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 158.23 Mbit/s
95th percentile per-packet one-way delay: 53.798 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 74.99 Mbit/s
95th percentile per-packet one-way delay: 55.841 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 73.33 Mbit/s
95th percentile per-packet one-way delay: 56.812 ms
Loss rate: 0.19%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Local clock offset: 0.287 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.91 Mbit/s
95th percentile per-packet one-way delay: 54.262 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 121.70 Mbit/s
95th percentile per-packet one-way delay: 52.855 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 78.64 Mbit/s
95th percentile per-packet one-way delay: 56.278 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 98.37 Mbit/s
95th percentile per-packet one-way delay: 58.612 ms
Loss rate: 0.00%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-27 11:12:14
End at: 2018-07-27 11:12:44
Local clock offset: -0.055 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2018-07-27 14:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.58 Mbit/s
95th percentile per-packet one-way delay: 55.933 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 158.12 Mbit/s
95th percentile per-packet one-way delay: 54.968 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 44.90 Mbit/s
95th percentile per-packet one-way delay: 58.201 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 71.62 Mbit/s
95th percentile per-packet one-way delay: 59.441 ms
Loss rate: 0.20%
Run 8: Report of TaoVA-100x — Data Link

![Graph of throughput and packet latency over time for different flow types, showing variations in mean and 95th percentile values.]
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-27 11:36:25
End at: 2018-07-27 11:36:55
Local clock offset: 0.204 ms
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2018-07-27 14:44:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 265.56 Mbit/s
95th percentile per-packet one-way delay: 53.870 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 119.79 Mbit/s
95th percentile per-packet one-way delay: 51.966 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 187.39 Mbit/s
95th percentile per-packet one-way delay: 56.335 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 64.24 Mbit/s
95th percentile per-packet one-way delay: 54.598 ms
Loss rate: 1.32%
Run 9: Report of TaoVA-100x — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 119.46 Mbps, 119.79 Mbps)
  - Flow 2 ingress (mean 186.60 Mbps, 187.39 Mbps)
  - Flow 3 ingress (mean 64.44 Mbps, 64.24 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 51.97 ms)
  - Flow 2 (95th percentile 56.34 ms)
  - Flow 3 (95th percentile 54.60 ms)
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-27 12:00:43
End at: 2018-07-27 12:01:13
Local clock offset: 0.245 ms
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.65 Mbit/s
95th percentile per-packet one-way delay: 54.833 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 146.49 Mbit/s
95th percentile per-packet one-way delay: 55.403 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 144.59 Mbit/s
95th percentile per-packet one-way delay: 53.754 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 56.699 ms
Loss rate: 0.42%
Run 10: Report of TaoVA-100x — Data Link

[Graph showing throughput and per-packet one-way delay for three flows (1, 2, 3) over time.]
Run 1: Statistics of TCP Vegas

Start at: 2018-07-27 08:10:47
End at: 2018-07-27 08:11:17
Local clock offset: -0.514 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.27 Mbit/s
95th percentile per-packet one-way delay: 59.896 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 78.61 Mbit/s
95th percentile per-packet one-way delay: 57.591 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 60.22 Mbit/s
95th percentile per-packet one-way delay: 59.358 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 217.15 Mbit/s
95th percentile per-packet one-way delay: 61.288 ms
Loss rate: 1.09%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2018-07-27 08:34:53
End at: 2018-07-27 08:35:23
Local clock offset: -0.027 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 243.08 Mbit/s
   95th percentile per-packet one-way delay: 62.190 ms
   Loss rate: 0.24%
   -- Flow 1:
      Average throughput: 214.78 Mbit/s
      95th percentile per-packet one-way delay: 62.266 ms
      Loss rate: 0.12%
   -- Flow 2:
      Average throughput: 9.27 Mbit/s
      95th percentile per-packet one-way delay: 58.198 ms
      Loss rate: 1.07%
   -- Flow 3:
      Average throughput: 67.47 Mbit/s
      95th percentile per-packet one-way delay: 60.538 ms
      Loss rate: 1.14%
Run 2: Report of TCP Vegas — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows.]
Run 3: Statistics of TCP Vegas

Start at: 2018-07-27 08:58:57
End at: 2018-07-27 08:59:27
Local clock offset: 0.03 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.59 Mbit/s
95th percentile per-packet one-way delay: 84.659 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 175.68 Mbit/s
95th percentile per-packet one-way delay: 80.313 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 22.16 Mbit/s
95th percentile per-packet one-way delay: 83.211 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 183.11 Mbit/s
95th percentile per-packet one-way delay: 90.456 ms
Loss rate: 1.36%
Run 3: Report of TCP Vegas — Data Link

[Graphs showing throughput and per-packet one-way delay for different flows over time]
Run 4: Statistics of TCP Vegas

Start at: 2018-07-27 09:23:07
End at: 2018-07-27 09:23:37
Local clock offset: -0.033 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 177.47 Mbit/s
  95th percentile per-packet one-way delay: 62.570 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 47.52 Mbit/s
  95th percentile per-packet one-way delay: 59.223 ms
  Loss rate: 0.34%
-- Flow 2:
  Average throughput: 192.89 Mbit/s
  95th percentile per-packet one-way delay: 63.027 ms
  Loss rate: 0.21%
-- Flow 3:
  Average throughput: 5.15 Mbit/s
  95th percentile per-packet one-way delay: 56.379 ms
  Loss rate: 2.36%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2018-07-27 09:47:00
End at: 2018-07-27 09:47:30
Local clock offset: -0.037 ms
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 254.80 Mbit/s
  95th percentile per-packet one-way delay: 61.127 ms
  Loss rate: 0.20%
-- Flow 1:
  Average throughput: 215.86 Mbit/s
  95th percentile per-packet one-way delay: 61.278 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 55.91 Mbit/s
  95th percentile per-packet one-way delay: 58.034 ms
  Loss rate: 0.53%
-- Flow 3:
  Average throughput: 5.33 Mbit/s
  95th percentile per-packet one-way delay: 59.845 ms
  Loss rate: 2.23%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-07-27 10:11:12
End at: 2018-07-27 10:11:42
Local clock offset: -0.108 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-07-27 14:45:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.18 Mbit/s
95th percentile per-packet one-way delay: 78.400 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 142.41 Mbit/s
95th percentile per-packet one-way delay: 74.479 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 157.80 Mbit/s
95th percentile per-packet one-way delay: 80.516 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 73.130 ms
Loss rate: 1.59%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-07-27 10:35:20
End at: 2018-07-27 10:35:50
Local clock offset: -0.06 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2018-07-27 14:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.69 Mbit/s
95th percentile per-packet one-way delay: 66.231 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 124.16 Mbit/s
95th percentile per-packet one-way delay: 62.014 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 212.39 Mbit/s
95th percentile per-packet one-way delay: 67.616 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 10.12 Mbit/s
95th percentile per-packet one-way delay: 63.698 ms
Loss rate: 1.38%
Run 7: Report of TCP Vegas — Data Link
Run 8: Statistics of TCP Vegas

End at: 2018-07-27 10:59:54
Local clock offset: -0.038 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-07-27 14:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.44 Mbit/s
95th percentile per-packet one-way delay: 60.909 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 46.47 Mbit/s
95th percentile per-packet one-way delay: 52.913 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 56.886 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 219.82 Mbit/s
95th percentile per-packet one-way delay: 61.958 ms
Loss rate: 1.21%
Run 8: Report of TCP Vegas — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 46.41 Mb/s)
Flow 1 egress (mean 46.47 Mb/s)
Flow 2 ingress (mean 11.17 Mb/s)
Flow 2 egress (mean 11.12 Mb/s)
Flow 3 ingress (mean 220.26 Mb/s)
Flow 3 egress (mean 219.62 Mb/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 52.91 ms)
Flow 2 (95th percentile 56.89 ms)
Flow 3 (95th percentile 61.96 ms)
Run 9: Statistics of TCP Vegas

End at: 2018-07-27 11:24:01
Local clock offset: -0.494 ms
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2018-07-27 14:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.99 Mbit/s
95th percentile per-packet one-way delay: 51.905 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 51.494 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 130.39 Mbit/s
95th percentile per-packet one-way delay: 52.135 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 6.06 Mbit/s
95th percentile per-packet one-way delay: 51.652 ms
Loss rate: 2.03%
Run 9: Report of TCP Vegas — Data Link

![Graph showing throughput over time with different flow rates and delays for each flow.](image1)

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 33.29 Mbps)
  - Flow 1 egress (mean 33.26 Mbps)
  - Flow 2 ingress (mean 130.37 Mbps)
  - Flow 2 egress (mean 130.39 Mbps)
  - Flow 3 ingress (mean 6.12 Mbps)
  - Flow 3 egress (mean 6.06 Mbps)

- **Delay (ms):**
  - Flow 1 (95th percentile 51.49 ms)
  - Flow 2 (95th percentile 52.13 ms)
  - Flow 3 (95th percentile 51.65 ms)
Run 10: Statistics of TCP Vegas

Local clock offset: -0.161 ms  
Remote clock offset: -0.182 ms

# Below is generated by plot.py at 2018-07-27 14:47:22  
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 274.87 Mbit/s  
  95th percentile per-packet one-way delay: 61.269 ms  
  Loss rate: 0.42%  
-- Flow 1:
  Average throughput: 231.56 Mbit/s  
  95th percentile per-packet one-way delay: 61.391 ms  
  Loss rate: 0.35%  
-- Flow 2:
  Average throughput: 31.97 Mbit/s  
  95th percentile per-packet one-way delay: 59.187 ms  
  Loss rate: 0.41%  
-- Flow 3:
  Average throughput: 67.04 Mbit/s  
  95th percentile per-packet one-way delay: 58.611 ms  
  Loss rate: 1.13%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-07-27 08:20:56
End at: 2018-07-27 08:21:26
Local clock offset: 0.21 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2018-07-27 14:48:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.76 Mbit/s
95th percentile per-packet one-way delay: 176.568 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 176.44 Mbit/s
95th percentile per-packet one-way delay: 157.553 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 139.96 Mbit/s
95th percentile per-packet one-way delay: 184.833 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 85.77 Mbit/s
95th percentile per-packet one-way delay: 208.140 ms
Loss rate: 3.18%
Run 1: Report of Verus — Data Link

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

- Flow 1 ingress (mean 177.10 Mbit/s)
- Flow 1 egress (mean 176.44 Mbit/s)
- Flow 2 ingress (mean 141.06 Mbit/s)
- Flow 2 egress (mean 139.96 Mbit/s)
- Flow 3 ingress (mean 78.31 Mbit/s)
- Flow 3 egress (mean 85.77 Mbit/s)

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

- Flow 1 (95th percentile 157.55 ms)
- Flow 2 (95th percentile 184.83 ms)
- Flow 3 (95th percentile 208.14 ms)
Run 2: Statistics of Verus

Start at: 2018-07-27 08:45:06
End at: 2018-07-27 08:45:36
Local clock offset: 0.022 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-07-27 14:48:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 310.07 Mbit/s
  95th percentile per-packet one-way delay: 209.101 ms
  Loss rate: 0.90%
-- Flow 1:
  Average throughput: 177.98 Mbit/s
  95th percentile per-packet one-way delay: 189.023 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 135.54 Mbit/s
  95th percentile per-packet one-way delay: 212.095 ms
  Loss rate: 1.51%
-- Flow 3:
  Average throughput: 128.46 Mbit/s
  95th percentile per-packet one-way delay: 217.673 ms
  Loss rate: 0.74%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-07-27 09:09:14
End at: 2018-07-27 09:09:44
Local clock offset: 0.327 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-07-27 14:49:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.02 Mbit/s
  95th percentile per-packet one-way delay: 132.043 ms
  Loss rate: 0.71%
-- Flow 1:
  Average throughput: 202.84 Mbit/s
  95th percentile per-packet one-way delay: 122.908 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 105.96 Mbit/s
  95th percentile per-packet one-way delay: 134.942 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 78.98 Mbit/s
  95th percentile per-packet one-way delay: 168.631 ms
  Loss rate: 3.17%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-07-27 09:33:21
End at: 2018-07-27 09:33:51
Local clock offset: -0.053 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-07-27 14:49:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 285.23 Mbit/s
95th percentile per-packet one-way delay: 214.527 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 147.82 Mbit/s
95th percentile per-packet one-way delay: 215.880 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 131.17 Mbit/s
95th percentile per-packet one-way delay: 206.158 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 154.14 Mbit/s
95th percentile per-packet one-way delay: 220.462 ms
Loss rate: 7.42%
Run 4: Report of Verus — Data Link

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

Flow 1 ingress (mean 152.59 Mbit/s)  
Flow 1 egress (mean 147.82 Mbit/s)  
Flow 2 ingress (mean 132.82 Mbit/s)  
Flow 2 egress (mean 131.17 Mbit/s)  
Flow 3 ingress (mean 164.28 Mbit/s)  
Flow 3 egress (mean 154.14 Mbit/s)
Run 5: Statistics of Verus

Start at: 2018-07-27 09:57:21
End at: 2018-07-27 09:57:51
Local clock offset: -0.125 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-27 14:50:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.76 Mbit/s
95th percentile per-packet one-way delay: 192.667 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 198.42 Mbit/s
95th percentile per-packet one-way delay: 183.416 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 97.68 Mbit/s
95th percentile per-packet one-way delay: 194.517 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 81.66 Mbit/s
95th percentile per-packet one-way delay: 214.380 ms
Loss rate: 2.68%
Run 5: Report of Verus — Data Link

![Graph showing network performance metrics over time. The graph includes two plots: one for throughput in Mbit/s and the other for packet per second in packets/s. Each flow is represented by different lines and markers, indicating mean and 95th percentile values. The graphs display fluctuations in network performance metrics over time, with each flow showing distinct patterns and performance characteristics. The legend explains the significance of each line and marker, providing insights into network behavior and performance under varying conditions.]
Run 6: Statistics of Verus

Local clock offset: -0.045 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-07-27 14:50:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.74 Mbit/s
95th percentile per-packet one-way delay: 161.404 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 186.71 Mbit/s
95th percentile per-packet one-way delay: 160.372 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 135.66 Mbit/s
95th percentile per-packet one-way delay: 155.731 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 64.28 Mbit/s
95th percentile per-packet one-way delay: 201.233 ms
Loss rate: 2.91%
Run 6: Report of Verus — Data Link

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

- Flow 1 ingress (mean 189.67 Mbit/s)
- Flow 1 egress (mean 186.71 Mbit/s)
- Flow 2 ingress (mean 136.54 Mbit/s)
- Flow 2 egress (mean 135.66 Mbit/s)
- Flow 3 ingress (mean 58.64 Mbit/s)
- Flow 3 egress (mean 64.28 Mbit/s)

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

- Flow 1 (95th percentile 160.37 ms)
- Flow 2 (95th percentile 155.73 ms)
- Flow 3 (95th percentile 201.23 ms)
Run 7: Statistics of Verus

Start at: 2018-07-27 10:45:33
End at: 2018-07-27 10:46:03
Local clock offset: 0.007 ms
Remote clock offset: -0.0 ms

# Below is generated by plot.py at 2018-07-27 14:51:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.14 Mbit/s
95th percentile per-packet one-way delay: 207.380 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 152.48 Mbit/s
95th percentile per-packet one-way delay: 200.426 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 160.35 Mbit/s
95th percentile per-packet one-way delay: 209.288 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 62.64 Mbit/s
95th percentile per-packet one-way delay: 226.110 ms
Loss rate: 1.82%
Run 7: Report of Verus — Data Link
Run 8: Statistics of Verus

End at: 2018-07-27 11:10:09
Local clock offset: -0.424 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2018-07-27 14:53:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 281.25 Mbit/s
95th percentile per-packet one-way delay: 220.148 ms
Loss rate: 1.52%

-- Flow 1:
Average throughput: 183.44 Mbit/s
95th percentile per-packet one-way delay: 210.097 ms
Loss rate: 1.51%

-- Flow 2:
Average throughput: 132.13 Mbit/s
95th percentile per-packet one-way delay: 228.758 ms
Loss rate: 1.48%

-- Flow 3:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 223.964 ms
Loss rate: 2.01%
Run 8: Report of Verus — Data Link
Run 9: Statistics of Verus

End at: 2018-07-27 11:34:19
Local clock offset: 0.21 ms
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2018-07-27 14:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.21 Mbit/s
95th percentile per-packet one-way delay: 183.224 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 186.15 Mbit/s
95th percentile per-packet one-way delay: 171.071 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 109.42 Mbit/s
95th percentile per-packet one-way delay: 186.115 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 87.42 Mbit/s
95th percentile per-packet one-way delay: 253.527 ms
Loss rate: 2.54%
Run 9: Report of Verus — Data Link

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

- **Throughput**: The upper graph shows the throughput (in Mbps) over time for various flows, with different lines indicating mean values for ingress and egress for each flow.
- **Packet Delay**: The lower graph displays the per-packet end-to-end delay (in ms) over time, with different markers indicating the 95th percentile delay for each flow.
Run 10: Statistics of Verus

Start at: 2018-07-27 11:58:05
End at: 2018-07-27 11:58:35
Local clock offset: -0.135 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2018-07-27 14:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.01 Mbit/s
95th percentile per-packet one-way delay: 173.307 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 190.84 Mbit/s
95th percentile per-packet one-way delay: 170.268 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 124.76 Mbit/s
95th percentile per-packet one-way delay: 171.709 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 182.766 ms
Loss rate: 9.56%
Run 10: Report of Verus — Data Link
Run 1: Statistics of PCC-Vivace

End at: 2018-07-27 08:14:09
Local clock offset: -0.156 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-07-27 14:57:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 437.41 Mbit/s
95th percentile per-packet one-way delay: 50.680 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 220.51 Mbit/s
95th percentile per-packet one-way delay: 50.528 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 231.47 Mbit/s
95th percentile per-packet one-way delay: 51.921 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 193.01 Mbit/s
95th percentile per-packet one-way delay: 50.552 ms
Loss rate: 1.65%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-27 08:37:46
End at: 2018-07-27 08:38:16
Local clock offset: 0.331 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-07-27 14:59:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.59 Mbit/s
95th percentile per-packet one-way delay: 51.281 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 279.75 Mbit/s
95th percentile per-packet one-way delay: 50.319 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 243.48 Mbit/s
95th percentile per-packet one-way delay: 51.488 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 86.09 Mbit/s
95th percentile per-packet one-way delay: 49.339 ms
Loss rate: 1.24%
Run 2: Report of PCC-Vivace — Data Link

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**Throughput (Mbps):**

- **Flow 1 ingress (mean 279.48 Mbps):**
- **Flow 1 egress (mean 279.75 Mbps):**
- **Flow 2 ingress (mean 243.38 Mbps):**
- **Flow 2 egress (mean 243.48 Mbps):**
- **Flow 3 ingress (mean 96.28 Mbps):**
- **Flow 3 egress (mean 96.09 Mbps):**

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

- **Flow 1 (95th percentile 50.32 ms):**
- **Flow 2 (95th percentile 51.49 ms):**
- **Flow 3 (95th percentile 49.34 ms):**
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-27 09:01:48
End at: 2018-07-27 09:02:18
Local clock offset: -0.086 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-07-27 15:00:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 481.92 Mbit/s
  95th percentile per-packet one-way delay: 51.769 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 280.91 Mbit/s
  95th percentile per-packet one-way delay: 49.894 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 252.77 Mbit/s
  95th percentile per-packet one-way delay: 56.893 ms
  Loss rate: 0.55%
-- Flow 3:
  Average throughput: 101.57 Mbit/s
  95th percentile per-packet one-way delay: 49.309 ms
  Loss rate: 1.31%
Run 3: Report of PCC-Vivace — Data Link

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

Legend:
- Flow 1 ingress (mean 280.82 Mbit/s)
- Flow 1 egress (mean 280.91 Mbit/s)
- Flow 2 ingress (mean 252.85 Mbit/s)
- Flow 2 egress (mean 252.77 Mbit/s)
- Flow 3 ingress (mean 101.83 Mbit/s)
- Flow 3 egress (mean 101.57 Mbit/s)
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-27 09:26:02
End at: 2018-07-27 09:26:32
Local clock offset: -0.081 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-27 15:00:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 429.41 Mbit/s
95th percentile per-packet one-way delay: 52.284 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 235.13 Mbit/s
95th percentile per-packet one-way delay: 54.497 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 209.51 Mbit/s
95th percentile per-packet one-way delay: 50.998 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 168.47 Mbit/s
95th percentile per-packet one-way delay: 49.548 ms
Loss rate: 1.04%
Run 4: Report of PCC-Vivace — Data Link

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**Throughput (Mbps):**
- **Flow 1 ingress (mean 235.23 Mbps):**
- **Flow 1 egress (mean 235.13 Mbps):**
- **Flow 2 ingress (mean 209.64 Mbps):**
- **Flow 2 egress (mean 209.51 Mbps):**
- **Flow 3 ingress (mean 168.51 Mbps):**
- **Flow 3 egress (mean 168.47 Mbps):**

**Per-packet one-way delay (ms):**
- **Flow 1 (95th percentile 54.50 ms):**
- **Flow 2 (95th percentile 51.00 ms):**
- **Flow 3 (95th percentile 49.55 ms):**
Run 5: Statistics of PCC-Vivace

End at: 2018-07-27 09:50:25
Local clock offset: -0.046 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2018-07-27 15:01:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.66 Mbit/s
95th percentile per-packet one-way delay: 57.715 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 283.61 Mbit/s
95th percentile per-packet one-way delay: 52.836 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 292.41 Mbit/s
95th percentile per-packet one-way delay: 116.174 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 60.76 Mbit/s
95th percentile per-packet one-way delay: 50.921 ms
Loss rate: 1.55%
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-27 10:14:07
End at: 2018-07-27 10:14:37
Local clock offset: -0.025 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-27 15:01:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 429.81 Mbit/s
  95th percentile per-packet one-way delay: 58.904 ms
  Loss rate: 0.42%
-- Flow 1:
  Average throughput: 330.11 Mbit/s
  95th percentile per-packet one-way delay: 61.303 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 131.24 Mbit/s
  95th percentile per-packet one-way delay: 52.140 ms
  Loss rate: 0.77%
-- Flow 3:
  Average throughput: 38.38 Mbit/s
  95th percentile per-packet one-way delay: 50.887 ms
  Loss rate: 2.19%
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-27 10:38:11
End at: 2018-07-27 10:38:41
Local clock offset: -0.075 ms
Remote clock offset: 0.015 ms

# Below is generated by plot.py at 2018-07-27 15:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.19 Mbit/s
95th percentile per-packet one-way delay: 51.494 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 276.57 Mbit/s
95th percentile per-packet one-way delay: 51.758 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 181.04 Mbit/s
95th percentile per-packet one-way delay: 51.487 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 169.34 Mbit/s
95th percentile per-packet one-way delay: 50.473 ms
Loss rate: 1.31%
Run 7: Report of PCC-Vivace — Data Link

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

![Graph of Per-packet one-way delay (ms)](image)
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-27 11:02:14
End at: 2018-07-27 11:02:44
Local clock offset: -0.062 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-07-27 15:02:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 446.87 Mbit/s
  95th percentile per-packet one-way delay: 50.902 ms
  Loss rate: 0.41%
-- Flow 1:
  Average throughput: 298.10 Mbit/s
  95th percentile per-packet one-way delay: 51.264 ms
  Loss rate: 0.34%
-- Flow 2:
  Average throughput: 213.11 Mbit/s
  95th percentile per-packet one-way delay: 50.000 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 22.22 Mbit/s
  95th percentile per-packet one-way delay: 50.541 ms
  Loss rate: 1.85%
Run 8: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 298.10 Mbps)
- Flow 1 egress (mean 298.10 Mbps)
- Flow 2 ingress (mean 213.11 Mbps)
- Flow 2 egress (mean 213.11 Mbps)
- Flow 3 ingress (mean 22.41 Mbps)
- Flow 3 egress (mean 22.22 Mbps)

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

- Flow 1 (95th percentile 51.26 ms)
- Flow 2 (95th percentile 50.00 ms)
- Flow 3 (95th percentile 50.54 ms)

319
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-27 11:26:18
End at: 2018-07-27 11:26:48
Local clock offset: -0.138 ms
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 500.86 Mbit/s
95th percentile per-packet one-way delay: 52.827 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 299.95 Mbit/s
95th percentile per-packet one-way delay: 52.588 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 218.67 Mbit/s
95th percentile per-packet one-way delay: 54.385 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 170.15 Mbit/s
95th percentile per-packet one-way delay: 53.045 ms
Loss rate: 1.26%
Run 9: Report of PCC-Vivace — Data Link

![Graph showing data link metrics for different flows, including throughput and per-packet one-way delay.]

- Flow 1 ingress (mean 299.70 Mbit/s)
- Flow 1 egress (mean 299.95 Mbit/s)
- Flow 2 ingress (mean 218.83 Mbit/s)
- Flow 2 egress (mean 218.67 Mbit/s)
- Flow 3 ingress (mean 170.57 Mbit/s)
- Flow 3 egress (mean 170.15 Mbit/s)
Run 10: Statistics of PCC-Vivace

End at: 2018-07-27 11:51:14
Local clock offset: -0.13 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.58 Mbit/s
95th percentile per-packet one-way delay: 51.379 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 196.87 Mbit/s
95th percentile per-packet one-way delay: 50.263 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 241.90 Mbit/s
95th percentile per-packet one-way delay: 56.895 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 192.66 Mbit/s
95th percentile per-packet one-way delay: 51.643 ms
Loss rate: 1.27%
Run 10: Report of PCC-Vivace — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 Ingress (Mean: 197.09 Mbps)
  - Flow 1 Egress (Mean: 196.87 Mbps)
  - Flow 2 Ingress (Mean: 242.11 Mbps)
  - Flow 2 Egress (Mean: 241.90 Mbps)
  - Flow 3 Ingress (Mean: 193.17 Mbps)
  - Flow 3 Egress (Mean: 192.66 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile: 50.26 ms)
  - Flow 2 (95th percentile: 56.90 ms)
  - Flow 3 (95th percentile: 51.64 ms)
Run 1: Statistics of WebRTC media

Local clock offset: 0.216 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 50.642 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 50.486 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 50.365 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 50.752 ms
Loss rate: 1.18%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2018-07-27 08:46:35
End at: 2018-07-27 08:47:05
Local clock offset: 0.344 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 51.318 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 49.385 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 51.371 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 49.325 ms
Loss rate: 0.52%
Run 2: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.06 Mbit/s)
- Flow 1 egress (mean 2.06 Mbit/s)
- Flow 2 ingress (mean 1.32 Mbit/s)
- Flow 2 egress (mean 1.32 Mbit/s)
- Flow 3 ingress (mean 0.55 Mbit/s)
- Flow 3 egress (mean 0.54 Mbit/s)
Run 3: Statistics of WebRTC media

Start at: 2018-07-27 09:10:42
End at: 2018-07-27 09:11:12
Local clock offset: -0.37 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.85 Mbit/s
  95th percentile per-packet one-way delay: 50.703 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 50.685 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 1.32 Mbit/s
  95th percentile per-packet one-way delay: 50.720 ms
  Loss rate: 0.80%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 50.713 ms
  Loss rate: 1.31%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2018-07-27 09:34:49
End at: 2018-07-27 09:35:19
Local clock offset: -0.039 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 51.031 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 51.035 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 50.963 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 89.377 ms
Loss rate: 1.70%
Run 4: Report of WebRTC media — Data Link

![Throughput Graph](image)

![Delay Graph](image)

Flow 1 ingress (mean 2.05 Mbit/s)  
Flow 1 egress (mean 2.05 Mbit/s)  
Flow 2 ingress (mean 1.31 Mbit/s)  
Flow 2 egress (mean 1.31 Mbit/s)  
Flow 3 ingress (mean 0.54 Mbit/s)  
Flow 3 egress (mean 0.54 Mbit/s)
Run 5: Statistics of WebRTC media

Start at: 2018-07-27 09:58:48
End at: 2018-07-27 09:59:18
Local clock offset: -0.069 ms
Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 50.852 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 50.787 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 49.847 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 51.012 ms
Loss rate: 1.74%
Run 5: Report of WebRTC media — Data Link
Run 6: Statistics of WebRTC media

Local clock offset: -0.081 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.85 Mbit/s
  95th percentile per-packet one-way delay: 50.880 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 2.03 Mbit/s
  95th percentile per-packet one-way delay: 49.719 ms
  Loss rate: 0.39%
-- Flow 2:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 50.939 ms
  Loss rate: 0.76%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 50.911 ms
  Loss rate: 1.61%
Run 6: Report of WebRTC media — Data Link
Run 7: Statistics of WebRTC media

Start at: 2018-07-27 10:47:01
End at: 2018-07-27 10:47:31
Local clock offset: -0.041 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 51.009 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 50.976 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 51.038 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 50.965 ms
Loss rate: 2.04%
Run 7: Report of WebRTC media — Data Link

![Graph showing throughput and per-packet round-trip delay over time for different flow rates and erlangs.](image-url)
Run 8: Statistics of WebRTC media

Start at: 2018-07-27 11:11:06
End at: 2018-07-27 11:11:36
Local clock offset: -0.383 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 50.204 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 49.744 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 50.414 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 50.183 ms
Loss rate: 1.88%
Run 8: Report of WebRTC media — Data Link
Run 9: Statistics of WebRTC media

Start at: 2018-07-27 11:35:16
End at: 2018-07-27 11:35:46
Local clock offset: 0.231 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 51.118 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 51.156 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 51.062 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 51.125 ms
Loss rate: 1.78%
Run 9: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.02 Mbit/s)
- Flow 1 egress (mean 2.02 Mbit/s)
- Flow 2 ingress (mean 1.32 Mbit/s)
- Flow 2 egress (mean 1.32 Mbit/s)
- Flow 3 ingress (mean 0.54 Mbit/s)
- Flow 3 egress (mean 0.54 Mbit/s)
Run 10: Statistics of WebRTC media

End at: 2018-07-27 12:00:05
Local clock offset: -0.49 ms
Remote clock offset: -0.248 ms

# Below is generated by plot.py at 2018-07-27 15:03:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.88 Mbit/s
  95th percentile per-packet one-way delay: 50.649 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 2.06 Mbit/s
  95th percentile per-packet one-way delay: 50.683 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 50.477 ms
  Loss rate: 0.71%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 50.611 ms
  Loss rate: 1.15%
Run 10: Report of WebRTC media — Data Link

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

Legend:
- Flow 1 ingress (mean 2.06 Mbit/s)
- Flow 1 egress (mean 2.06 Mbit/s)
- Flow 2 ingress (mean 1.11 Mbit/s)
- Flow 2 egress (mean 1.11 Mbit/s)
- Flow 3 ingress (mean 0.53 Mbit/s)
- Flow 3 egress (mean 0.53 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 50.68 ms)
- Flow 2 (95th percentile 50.48 ms)
- Flow 3 (95th percentile 50.61 ms)