Pantheon Report

Generated at 2018-08-10 23:53:29 (UTC).
Data path: GCE London Ethernet (remote) → GCE Tokyo Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1014-gcp
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: master @ 7719b900495aa706f09b4c5d62e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594a89e93b0421343cedbf5e562f4
third_party/indigo @ 2601c92e4a9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906de6bb7cf3fc
third_party/pantheon-tunnel @ 6f038e3f3123943d566f9840f65b82c6b9d6b39
third_party/pcc @ 1af4c958be0d66d86b623c091a65f8c872b4981e
M receiver/src/cache.h
M receiver/src/core.cpp
M sender/src/cache.h
M sender/src/core.cpp
third_party/pcc-experimental @ 463e34e3f5f5613e8ac085ab2d4ebf974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cffe2
third_party/scream-reproduce @ f09118d1421aa3131bf11ff1964974e1da3db2
M src/ScreamClient
M src/ScreamServer
third_party/verus @ 366e35c6178b01e31d46ad1a747f9415f19a26
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6ff9dde4735770d143a1f8251
test from GCE London to GCE Tokyo, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th></th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>345.07</td>
<td>285.92</td>
<td>100.45</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>137.86</td>
<td>131.26</td>
<td>134.08</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>109.79</td>
<td>57.46</td>
<td>37.93</td>
</tr>
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<td>FillP</td>
<td>10</td>
<td>614.47</td>
<td>539.51</td>
<td>399.44</td>
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<td>FillP-Sheep</td>
<td>10</td>
<td>588.37</td>
<td>527.21</td>
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<td>554.38</td>
<td>145.88</td>
<td>123.38</td>
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<td>LEDBAT</td>
<td>10</td>
<td>6.42</td>
<td>4.29</td>
<td>2.17</td>
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<td>PCC-Allegro</td>
<td>10</td>
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<td>60.17</td>
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<td>31.01</td>
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<td>1.76</td>
<td>1.05</td>
<td>0.35</td>
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Run 1: Statistics of TCP BBR

Start at: 2018-08-10 16:35:58
End at: 2018-08-10 16:36:28
Local clock offset: -0.291 ms
Remote clock offset: -0.296 ms

# Below is generated by plot.py at 2018-08-10 21:25:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 555.26 Mbit/s
95th percentile per-packet one-way delay: 266.865 ms
Loss rate: 5.04%
-- Flow 1:
Average throughput: 321.88 Mbit/s
95th percentile per-packet one-way delay: 242.376 ms
Loss rate: 4.29%
-- Flow 2:
Average throughput: 292.27 Mbit/s
95th percentile per-packet one-way delay: 289.580 ms
Loss rate: 5.59%
-- Flow 3:
Average throughput: 119.58 Mbit/s
95th percentile per-packet one-way delay: 196.397 ms
Loss rate: 8.34%
Run 1: Report of TCP BBR — Data Link

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

Start at: 2018-08-10 17:02:11
End at: 2018-08-10 17:02:41
Local clock offset: -0.203 ms
Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2018-08-10 21:25:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 488.80 Mbit/s
  95th percentile per-packet one-way delay: 235.514 ms
  Loss rate: 3.58%
-- Flow 1:
  Average throughput: 307.01 Mbit/s
  95th percentile per-packet one-way delay: 240.660 ms
  Loss rate: 3.28%
-- Flow 2:
  Average throughput: 241.30 Mbit/s
  95th percentile per-packet one-way delay: 228.248 ms
  Loss rate: 3.36%
-- Flow 3:
  Average throughput: 66.07 Mbit/s
  95th percentile per-packet one-way delay: 199.337 ms
  Loss rate: 9.20%
Run 2: Report of TCP BBR — Data Link

![Graph showing throughput and delay for different flows over time.](image)
Run 3: Statistics of TCP BBR

Start at: 2018-08-10 17:28:16
End at: 2018-08-10 17:28:46
Local clock offset: -0.126 ms
Remote clock offset: -0.318 ms

# Below is generated by plot.py at 2018-08-10 21:25:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 563.03 Mbit/s
  95th percentile per-packet one-way delay: 227.439 ms
  Loss rate: 3.19%
-- Flow 1:
  Average throughput: 323.37 Mbit/s
  95th percentile per-packet one-way delay: 250.152 ms
  Loss rate: 3.52%
-- Flow 2:
  Average throughput: 280.20 Mbit/s
  95th percentile per-packet one-way delay: 197.115 ms
  Loss rate: 2.15%
-- Flow 3:
  Average throughput: 164.32 Mbit/s
  95th percentile per-packet one-way delay: 199.232 ms
  Loss rate: 4.77%
Run 3: Report of TCP BBR — Data Link

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

- **Throughput (Mbps)**: The graph displays the throughput in megabits per second (Mbps) over time for different flow types. The throughput varies significantly over the 30-second time frame, with peaks and troughs indicating periods of high and low network activity.
- **Packet Delay**: The lower graph shows the per-packet one-way delay in milliseconds (ms) over time. The delay also varies significantly, with some spikes indicating delays that could affect real-time applications.

Legend:
- Flow 1 ingress (mean 332.68 Mbps)
- Flow 1 egress (mean 323.37 Mbps)
- Flow 2 ingress (mean 283.15 Mbps)
- Flow 2 egress (mean 280.20 Mbps)
- Flow 3 ingress (mean 166.69 Mbps)
- Flow 3 egress (mean 164.32 Mbps)

Legend for Packet Delay:
- Flow 1 (95th percentile 250.15 ms)
- Flow 2 (95th percentile 197.12 ms)
- Flow 3 (95th percentile 199.23 ms)
Run 4: Statistics of TCP BBR

Start at: 2018-08-10 17:54:31
End at: 2018-08-10 17:55:01
Local clock offset: -1.532 ms
Remote clock offset: -0.221 ms

# Below is generated by plot.py at 2018-08-10 21:25:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 466.49 Mbit/s
  95th percentile per-packet one-way delay: 222.856 ms
  Loss rate: 1.95%
-- Flow 1:
  Average throughput: 287.08 Mbit/s
  95th percentile per-packet one-way delay: 241.085 ms
  Loss rate: 1.78%
-- Flow 2:
  Average throughput: 262.04 Mbit/s
  95th percentile per-packet one-way delay: 193.888 ms
  Loss rate: 2.10%
-- Flow 3:
  Average throughput: 18.44 Mbit/s
  95th percentile per-packet one-way delay: 192.394 ms
  Loss rate: 5.60%
Run 4: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 290.14 Mbps)
- Flow 1 egress (mean 287.08 Mbps)
- Flow 2 ingress (mean 264.71 Mbps)
- Flow 2 egress (mean 262.04 Mbps)
- Flow 3 ingress (mean 19.11 Mbps)
- Flow 3 egress (mean 18.44 Mbps)

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

- Flow 1 (95th percentile 241.09 ms)
- Flow 2 (95th percentile 193.89 ms)
- Flow 3 (95th percentile 192.39 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-08-10 18:20:49
End at: 2018-08-10 18:21:19
Local clock offset: 1.132 ms
Remote clock offset: -3.559 ms

# Below is generated by plot.py at 2018-08-10 21:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 602.96 Mbit/s
95th percentile per-packet one-way delay: 270.450 ms
Loss rate: 4.24%
-- Flow 1:
Average throughput: 377.49 Mbit/s
95th percentile per-packet one-way delay: 269.879 ms
Loss rate: 4.09%
-- Flow 2:
Average throughput: 321.83 Mbit/s
95th percentile per-packet one-way delay: 273.182 ms
Loss rate: 4.40%
-- Flow 3:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 197.373 ms
Loss rate: 6.09%
Run 5: Report of TCP BBR — Data Link

![Throughput Graph](image)

![Delay Graph](image)

Flow 1 ingress (mean 390.63 Mbit/s)  Flow 1 egress (mean 377.49 Mbit/s)
Flow 2 ingress (mean 332.87 Mbit/s)  Flow 2 egress (mean 321.83 Mbit/s)
Flow 3 ingress (mean 37.54 Mbit/s)  Flow 3 egress (mean 36.06 Mbit/s)

Flow 1 (95th percentile 269.88 ms)  Flow 2 (95th percentile 273.18 ms)  Flow 3 (95th percentile 197.37 ms)
Run 6: Statistics of TCP BBR

Start at: 2018-08-10 18:48:12
End at: 2018-08-10 18:48:42
Local clock offset: -0.077 ms
Remote clock offset: -3.43 ms

# Below is generated by plot.py at 2018-08-10 21:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.49 Mbit/s
95th percentile per-packet one-way delay: 258.658 ms
Loss rate: 5.58%
-- Flow 1:
Average throughput: 312.68 Mbit/s
95th percentile per-packet one-way delay: 251.437 ms
Loss rate: 3.65%
-- Flow 2:
Average throughput: 319.63 Mbit/s
95th percentile per-packet one-way delay: 288.816 ms
Loss rate: 7.70%
-- Flow 3:
Average throughput: 130.45 Mbit/s
95th percentile per-packet one-way delay: 200.021 ms
Loss rate: 8.59%
Run 6: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows with specified mean and 95th percentile delays.](Image)

**Throughput (Mbps)**
- Flow 1 ingress (mean 322.10 Mbps)
- Flow 1 egress (mean 312.68 Mbps)
- Flow 2 ingress (mean 342.42 Mbps)
- Flow 2 egress (mean 319.63 Mbps)
- Flow 3 ingress (mean 139.50 Mbps)
- Flow 3 egress (mean 130.45 Mbps)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 251.44 ms)
- Flow 2 (95th percentile 288.82 ms)
- Flow 3 (95th percentile 200.02 ms)
Run 7: Statistics of TCP BBR

Start at: 2018-08-10 19:15:30
End at: 2018-08-10 19:16:00
Local clock offset: 3.041 ms
Remote clock offset: -2.908 ms

# Below is generated by plot.py at 2018-08-10 21:26:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 590.98 Mbit/s
  95th percentile per-packet one-way delay: 219.605 ms
  Loss rate: 2.34%
-- Flow 1:
  Average throughput: 356.05 Mbit/s
  95th percentile per-packet one-way delay: 231.706 ms
  Loss rate: 2.20%
-- Flow 2:
  Average throughput: 270.21 Mbit/s
  95th percentile per-packet one-way delay: 198.102 ms
  Loss rate: 1.71%
-- Flow 3:
  Average throughput: 169.94 Mbit/s
  95th percentile per-packet one-way delay: 197.572 ms
  Loss rate: 5.17%
Run 7: Report of TCP BBR — Data Link

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

Flow 1 ingress (mean 361.34 Mbit/s) vs Flow 1 egress (mean 356.05 Mbit/s)
Flow 2 ingress (mean 271.80 Mbit/s) vs Flow 2 egress (mean 270.21 Mbit/s)
Flow 3 ingress (mean 179.20 Mbit/s) vs Flow 3 egress (mean 169.04 Mbit/s)

Flow 1 (95th percentile 231.71 ms)
Flow 2 (95th percentile 198.10 ms)
Flow 3 (95th percentile 197.57 ms)
Run 8: Statistics of TCP BBR

Start at: 2018-08-10 19:43:44
End at: 2018-08-10 19:44:14
Local clock offset: -0.1 ms
Remote clock offset: -2.815 ms

# Below is generated by plot.py at 2018-08-10 21:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 598.74 Mbit/s
95th percentile per-packet one-way delay: 262.546 ms
Loss rate: 4.49%
-- Flow 1:
Average throughput: 359.43 Mbit/s
95th percentile per-packet one-way delay: 261.224 ms
Loss rate: 3.58%
-- Flow 2:
Average throughput: 314.64 Mbit/s
95th percentile per-packet one-way delay: 268.911 ms
Loss rate: 5.35%
-- Flow 3:
Average throughput: 93.11 Mbit/s
95th percentile per-packet one-way delay: 199.848 ms
Loss rate: 8.91%
Run 8: Report of TCP BBR — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 370.04 Mbit/s)
Flow 1 egress (mean 359.43 Mbit/s)
Flow 2 ingress (mean 328.73 Mbit/s)
Flow 2 egress (mean 314.64 Mbit/s)
Flow 3 ingress (mean 99.94 Mbit/s)
Flow 3 egress (mean 93.11 Mbit/s)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 261.22 ms)
Flow 2 (95th percentile 268.91 ms)
Flow 3 (95th percentile 199.85 ms)
Run 9: Statistics of TCP BBR

Start at: 2018-08-10 20:11:09
End at: 2018-08-10 20:11:39
Local clock offset: -0.107 ms
Remote clock offset: -1.14 ms

# Below is generated by plot.py at 2018-08-10 21:34:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 612.96 Mbit/s
95th percentile per-packet one-way delay: 258.759 ms
Loss rate: 4.42%
-- Flow 1:
Average throughput: 390.30 Mbit/s
95th percentile per-packet one-way delay: 263.423 ms
Loss rate: 4.24%
-- Flow 2:
Average throughput: 288.93 Mbit/s
95th percentile per-packet one-way delay: 227.881 ms
Loss rate: 3.99%
-- Flow 3:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 200.951 ms
Loss rate: 9.04%
Run 9: Report of TCP BBR — Data Link
Run 10: Statistics of TCP BBR

Start at: 2018-08-10 20:38:17
End at: 2018-08-10 20:38:47
Local clock offset: -0.037 ms
Remote clock offset: -0.306 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 629.93 Mbit/s
  95th percentile per-packet one-way delay: 275.549 ms
  Loss rate: 6.61%
-- Flow 1:
  Average throughput: 415.40 Mbit/s
  95th percentile per-packet one-way delay: 286.426 ms
  Loss rate: 7.17%
-- Flow 2:
  Average throughput: 268.12 Mbit/s
  95th percentile per-packet one-way delay: 200.108 ms
  Loss rate: 4.46%
-- Flow 3:
  Average throughput: 111.99 Mbit/s
  95th percentile per-packet one-way delay: 200.504 ms
  Loss rate: 10.27%
Run 10: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2018-08-10 16:48:40
End at: 2018-08-10 16:49:10
Local clock offset: -1.215 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.29 Mbit/s
95th percentile per-packet one-way delay: 129.803 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 137.43 Mbit/s
95th percentile per-packet one-way delay: 124.218 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 111.94 Mbit/s
95th percentile per-packet one-way delay: 140.924 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 62.84 Mbit/s
95th percentile per-packet one-way delay: 120.880 ms
Loss rate: 1.36%
Run 1: Report of Copa — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 136.64 Mbps)  Flow 2 ingress (mean 110.97 Mbps)
Flow 1 egress (mean 137.43 Mbps)  Flow 2 egress (mean 111.94 Mbps)
Flow 3 ingress (mean 62.49 Mbps)  Flow 3 egress (mean 62.84 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 124.22 ms)  Flow 2 (95th percentile 140.92 ms)  Flow 3 (95th percentile 120.88 ms)
Run 2: Statistics of Copa

Start at: 2018-08-10 17:14:39
End at: 2018-08-10 17:15:09
Local clock offset: -0.177 ms
Remote clock offset: -0.259 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.07 Mbit/s
  95th percentile per-packet one-way delay: 133.982 ms
  Loss rate: 1.07%
-- Flow 1:
  Average throughput: 148.20 Mbit/s
  95th percentile per-packet one-way delay: 120.908 ms
  Loss rate: 1.01%
-- Flow 2:
  Average throughput: 176.59 Mbit/s
  95th percentile per-packet one-way delay: 142.485 ms
  Loss rate: 0.99%
-- Flow 3:
  Average throughput: 103.48 Mbit/s
  95th percentile per-packet one-way delay: 143.001 ms
  Loss rate: 1.62%
Run 2: Report of Copa — Data Link

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

- Flow 1 ingress (mean 148.61 Mbit/s)
- Flow 1 egress (mean 148.20 Mbit/s)
- Flow 2 ingress (mean 176.37 Mbit/s)
- Flow 2 egress (mean 176.59 Mbit/s)
- Flow 3 ingress (mean 102.85 Mbit/s)
- Flow 3 egress (mean 103.48 Mbit/s)
Run 3: Statistics of Copa

Start at: 2018-08-10 17:41:05
End at: 2018-08-10 17:41:35
Local clock offset: -0.129 ms
Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 229.64 Mbit/s
  95th percentile per-packet one-way delay: 115.804 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 144.26 Mbit/s
  95th percentile per-packet one-way delay: 117.336 ms
  Loss rate: 0.59%
-- Flow 2:
  Average throughput: 75.17 Mbit/s
  95th percentile per-packet one-way delay: 113.773 ms
  Loss rate: 1.30%
-- Flow 3:
  Average throughput: 108.57 Mbit/s
  95th percentile per-packet one-way delay: 114.585 ms
  Loss rate: 2.92%
Run 3: Report of Copa — Data Link

[Graph showing throughput and packet delay over time for different flows with mean values for each flow's ingress and egress.

Legend:
- Flow 1 ingress (mean 144.04 Mbit/s)
- Flow 1 egress (mean 144.26 Mbit/s)
- Flow 2 ingress (mean 75.31 Mbit/s)
- Flow 2 egress (mean 75.17 Mbit/s)
- Flow 3 ingress (mean 109.27 Mbit/s)
- Flow 3 egress (mean 108.57 Mbit/s)

Legend for packet delay:
- Flow 1 (95th percentile 117.34 ms)
- Flow 2 (95th percentile 113.77 ms)
- Flow 3 (95th percentile 114.58 ms)
Run 4: Statistics of Copa

Start at: 2018-08-10 18:06:56
End at: 2018-08-10 18:07:26
Local clock offset: 1.176 ms
Remote clock offset: 0.106 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.11 Mbit/s
95th percentile per-packet one-way delay: 149.773 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 146.28 Mbit/s
95th percentile per-packet one-way delay: 132.397 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 152.10 Mbit/s
95th percentile per-packet one-way delay: 165.538 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 128.36 Mbit/s
95th percentile per-packet one-way delay: 141.319 ms
Loss rate: 0.77%
Run 4: Report of Copa — Data Link

![Graphs showing network performance metrics over time.]
Run 5: Statistics of Copa

Start at: 2018-08-10 18:33:55
End at: 2018-08-10 18:34:25
Local clock offset: -0.318 ms
Remote clock offset: -6.625 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.34 Mbit/s
95th percentile per-packet one-way delay: 169.443 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 100.68 Mbit/s
95th percentile per-packet one-way delay: 114.302 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 171.25 Mbit/s
95th percentile per-packet one-way delay: 115.981 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 158.90 Mbit/s
95th percentile per-packet one-way delay: 209.308 ms
Loss rate: 4.39%
Run 5: Report of Copa — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 100.33 Mb/s) — Flow 1 egress (mean 100.68 Mb/s)
Flow 2 ingress (mean 171.59 Mb/s) — Flow 2 egress (mean 171.25 Mb/s)
Flow 3 ingress (mean 162.47 Mb/s) — Flow 3 egress (mean 158.90 Mb/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 114.30 ms) — Flow 2 (95th percentile 115.98 ms) — Flow 3 (95th percentile 209.31 ms)
Run 6: Statistics of Copa

Start at: 2018-08-10 19:01:16
End at: 2018-08-10 19:01:46
Local clock offset: -0.279 ms
Remote clock offset: -4.122 ms

# Below is generated by plot.py at 2018-08-10 21:35:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.57 Mbit/s
95th percentile per-packet one-way delay: 141.342 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 132.22 Mbit/s
95th percentile per-packet one-way delay: 117.167 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 82.97 Mbit/s
95th percentile per-packet one-way delay: 112.320 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 166.51 Mbit/s
95th percentile per-packet one-way delay: 159.271 ms
Loss rate: 0.48%
Run 6: Report of Copa — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 131.72 Mbps)
  - Flow 1 egress (mean 132.22 Mbps)
  - Flow 2 ingress (mean 82.77 Mbps)
  - Flow 2 egress (mean 82.97 Mbps)
  - Flow 3 ingress (mean 163.56 Mbps)
  - Flow 3 egress (mean 166.51 Mbps)

- **Packet delivery delay (ms):**
  - Flow 1 (95th percentile 117.17 ms)
  - Flow 2 (95th percentile 112.32 ms)
  - Flow 3 (95th percentile 159.27 ms)
Run 7: Statistics of Copa

Start at: 2018-08-10 19:28:53
End at: 2018-08-10 19:29:23
Local clock offset: 0.034 ms
Remote clock offset: -1.992 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.55 Mbit/s
95th percentile per-packet one-way delay: 142.241 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 230.11 Mbit/s
95th percentile per-packet one-way delay: 129.656 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 160.60 Mbit/s
95th percentile per-packet one-way delay: 139.266 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 156.06 Mbit/s
95th percentile per-packet one-way delay: 199.462 ms
Loss rate: 2.99%
Run 7: Report of Copa — Data Link

**Throughput (Mbps)**

- Flow 1 ingress (mean 229.90 Mbps)
- Flow 1 egress (mean 230.11 Mbps)
- Flow 2 ingress (mean 160.82 Mbps)
- Flow 2 egress (mean 160.60 Mbps)
- Flow 3 ingress (mean 157.28 Mbps)
- Flow 3 egress (mean 156.06 Mbps)

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

- Flow 1 (95th percentile 129.66 ms)
- Flow 2 (95th percentile 139.27 ms)
- Flow 3 (95th percentile 199.46 ms)
Run 8: Statistics of Copa

Start at: 2018-08-10 19:56:59
End at: 2018-08-10 19:57:29
Local clock offset: 0.022 ms
Remote clock offset: -1.248 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 265.41 Mbit/s
95th percentile per-packet one-way delay: 167.476 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 123.76 Mbit/s
95th percentile per-packet one-way delay: 150.345 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 104.27 Mbit/s
95th percentile per-packet one-way delay: 137.224 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 221.41 Mbit/s
95th percentile per-packet one-way delay: 192.709 ms
Loss rate: 3.62%
Run 8: Report of Copa — Data Link

Throughput (Mb/s)

- Flow 1 ingress (mean 123.07 Mb/s)
- Flow 1 egress (mean 123.76 Mb/s)
- Flow 2 ingress (mean 103.54 Mb/s)
- Flow 2 egress (mean 104.27 Mb/s)
- Flow 3 ingress (mean 224.62 Mb/s)
- Flow 3 egress (mean 221.41 Mb/s)

Packet one-way delay (ms)

- Flow 1 (95th percentile 150.34 ms)
- Flow 2 (95th percentile 137.22 ms)
- Flow 3 (95th percentile 192.71 ms)
Run 9: Statistics of Copa

Start at: 2018-08-10 20:24:09
End at: 2018-08-10 20:24:39
Local clock offset: -0.04 ms
Remote clock offset: -0.47 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.01 Mbit/s
95th percentile per-packet one-way delay: 143.044 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 97.58 Mbit/s
95th percentile per-packet one-way delay: 128.380 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 166.27 Mbit/s
95th percentile per-packet one-way delay: 150.788 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 162.22 Mbit/s
95th percentile per-packet one-way delay: 149.726 ms
Loss rate: 4.33%
Run 9: Report of Copa — Data Link
Run 10: Statistics of Copa

Start at: 2018-08-10 20:51:12
End at: 2018-08-10 20:51:42
Local clock offset: 2.775 ms
Remote clock offset: -0.361 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 215.66 Mbit/s
  95th percentile per-packet one-way delay: 128.900 ms
  Loss rate: 1.00%
-- Flow 1:
  Average throughput: 118.05 Mbit/s
  95th percentile per-packet one-way delay: 123.733 ms
  Loss rate: 0.81%
-- Flow 2:
  Average throughput: 111.40 Mbit/s
  95th percentile per-packet one-way delay: 149.697 ms
  Loss rate: 0.80%
-- Flow 3:
  Average throughput: 72.42 Mbit/s
  95th percentile per-packet one-way delay: 114.674 ms
  Loss rate: 2.56%
Run 10: Report of Copa — Data Link

![Graph 1: Throughput over Time (Mbits/s)]

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

Legend:
- Flow 1 ingress (mean 118.14 Mbits/s)
- Flow 1 egress (mean 118.05 Mbits/s)
- Flow 2 ingress (mean 113.04 Mbits/s)
- Flow 2 egress (mean 111.40 Mbits/s)
- Flow 3 ingress (mean 72.66 Mbits/s)
- Flow 3 egress (mean 72.42 Mbits/s)
Run 1: Statistics of TCP Cubic

Start at: 2018-08-10 16:39:08
End at: 2018-08-10 16:39:38
Local clock offset: -0.086 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.94 Mbit/s
95th percentile per-packet one-way delay: 116.552 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 136.76 Mbit/s
95th percentile per-packet one-way delay: 114.093 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 21.19 Mbit/s
95th percentile per-packet one-way delay: 113.736 ms
Loss rate: 5.03%
-- Flow 3:
Average throughput: 98.15 Mbit/s
95th percentile per-packet one-way delay: 129.176 ms
Loss rate: 2.66%
Run 2: Statistics of TCP Cubic

Start at: 2018-08-10 17:05:16
End at: 2018-08-10 17:05:46
Local clock offset: 0.149 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 171.84 Mbit/s
  95th percentile per-packet one-way delay: 114.860 ms
  Loss rate: 1.04%
-- Flow 1:
  Average throughput: 114.44 Mbit/s
  95th percentile per-packet one-way delay: 115.178 ms
  Loss rate: 0.92%
-- Flow 2:
  Average throughput: 85.49 Mbit/s
  95th percentile per-packet one-way delay: 114.537 ms
  Loss rate: 1.20%
-- Flow 3:
  Average throughput: 1.81 Mbit/s
  95th percentile per-packet one-way delay: 112.180 ms
  Loss rate: 8.75%
Run 2: Report of TCP Cubic — Data Link

![Graph 1: Throughput (Mbps) over time]

- Flow 1 ingress (mean 114.64 Mbps)
- Flow 1 egress (mean 114.44 Mbps)
- Flow 2 ingress (mean 85.57 Mbps)
- Flow 2 egress (mean 85.49 Mbps)
- Flow 3 ingress (mean 1.94 Mbps)
- Flow 3 egress (mean 1.81 Mbps)

![Graph 2: Packet error rate over time]

- Flow 1 (95th percentile 115.18 ms)
- Flow 2 (95th percentile 114.54 ms)
- Flow 3 (95th percentile 112.18 ms)
Run 3: Statistics of TCP Cubic

Start at: 2018-08-10 17:31:28
End at: 2018-08-10 17:31:58
Local clock offset: -0.167 ms
Remote clock offset: 0.099 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 180.10 Mbit/s
  95th percentile per-packet one-way delay: 113.647 ms
  Loss rate: 1.37%
-- Flow 1:
  Average throughput: 106.62 Mbit/s
  95th percentile per-packet one-way delay: 113.092 ms
  Loss rate: 1.34%
-- Flow 2:
  Average throughput: 109.90 Mbit/s
  95th percentile per-packet one-way delay: 114.865 ms
  Loss rate: 1.34%
-- Flow 3:
  Average throughput: 1.86 Mbit/s
  95th percentile per-packet one-way delay: 111.318 ms
  Loss rate: 8.39%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2018-08-10 17:57:32
End at: 2018-08-10 17:58:02
Local clock offset: 0.769 ms
Remote clock offset: -0.239 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.27 Mbit/s
95th percentile per-packet one-way delay: 115.189 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 113.25 Mbit/s
95th percentile per-packet one-way delay: 115.038 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 115.085 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 81.76 Mbit/s
95th percentile per-packet one-way delay: 116.047 ms
Loss rate: 3.11%
Run 4: Report of TCP Cubic — Data Link
Run 5: Statistics of TCP Cubic

Start at: 2018-08-10 18:24:01
End at: 2018-08-10 18:24:31
Local clock offset: -0.663 ms
Remote clock offset: -3.966 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.46 Mbit/s
95th percentile per-packet one-way delay: 113.140 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 149.56 Mbit/s
95th percentile per-packet one-way delay: 113.964 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 101.50 Mbit/s
95th percentile per-packet one-way delay: 111.896 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 110.745 ms
Loss rate: 9.58%
Run 5: Report of TCP Cubic — Data Link

[Graph showing throughput and packet one-way delay over time for different flows, with legends indicating mean ingress and egress throughput for each flow.]
Run 6: Statistics of TCP Cubic

Start at: 2018-08-10 18:51:27
End at: 2018-08-10 18:51:57
Local clock offset: 1.415 ms
Remote clock offset: -3.041 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.31 Mbit/s
95th percentile per-packet one-way delay: 114.766 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 122.50 Mbit/s
95th percentile per-packet one-way delay: 115.008 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 13.91 Mbit/s
95th percentile per-packet one-way delay: 112.833 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 112.497 ms
Loss rate: 8.71%
Run 6: Report of TCP Cubic — Data Link

[Graph showing throughput and packet round-trip time over time for different flows, indicating network performance metrics.]
Run 7: Statistics of TCP Cubic

Start at: 2018-08-10 19:18:41
End at: 2018-08-10 19:19:11
Local clock offset: -0.08 ms
Remote clock offset: -2.041 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 177.62 Mbit/s
  95th percentile per-packet one-way delay: 111.750 ms
  Loss rate: 1.64%
-- Flow 1:
  Average throughput: 63.65 Mbit/s
  95th percentile per-packet one-way delay: 111.750 ms
  Loss rate: 1.23%
-- Flow 2:
  Average throughput: 110.55 Mbit/s
  95th percentile per-packet one-way delay: 111.322 ms
  Loss rate: 1.31%
-- Flow 3:
  Average throughput: 123.90 Mbit/s
  95th percentile per-packet one-way delay: 114.090 ms
  Loss rate: 2.83%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-08-10 19:46:59
End at: 2018-08-10 19:47:29
Local clock offset: 2.717 ms
Remote clock offset: -1.801 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.98 Mbit/s
95th percentile per-packet one-way delay: 115.768 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 148.60 Mbit/s
95th percentile per-packet one-way delay: 115.830 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 19.27 Mbit/s
95th percentile per-packet one-way delay: 114.968 ms
Loss rate: 5.21%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 114.356 ms
Loss rate: 8.06%
Run 8: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 149.27 Mbps)
- Flow 1 egress (mean 148.60 Mbps)
- Flow 2 ingress (mean 20.10 Mbps)
- Flow 2 egress (mean 19.27 Mbps)
- Flow 3 ingress (mean 1.93 Mbps)
- Flow 3 egress (mean 1.81 Mbps)

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

- Flow 1 (95th percentile 115.83 ms)
- Flow 2 (95th percentile 114.97 ms)
- Flow 3 (95th percentile 114.36 ms)
Run 9: Statistics of TCP Cubic

Start at: 2018-08-10 20:14:23
End at: 2018-08-10 20:14:53
Local clock offset: -0.126 ms
Remote clock offset: -0.728 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 81.90 Mbit/s
  95th percentile per-packet one-way delay: 112.907 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 52.50 Mbit/s
  95th percentile per-packet one-way delay: 111.899 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 12.43 Mbit/s
  95th percentile per-packet one-way delay: 111.168 ms
  Loss rate: 2.33%
-- Flow 3:
  Average throughput: 64.74 Mbit/s
  95th percentile per-packet one-way delay: 117.715 ms
  Loss rate: 1.47%
Run 9: Report of TCP Cubic — Data Link
Run 10: Statistics of TCP Cubic

Start at: 2018-08-10 20:41:33
End at: 2018-08-10 20:42:03
Local clock offset: -0.082 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-08-10 21:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.88 Mbit/s
95th percentile per-packet one-way delay: 113.067 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 89.98 Mbit/s
95th percentile per-packet one-way delay: 113.144 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 110.839 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 110.871 ms
Loss rate: 8.28%
Run 10: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2018-08-10 16:29:33
End at: 2018-08-10 16:30:03
Local clock offset: -1.569 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2018-08-10 22:00:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 923.34 Mbit/s
95th percentile per-packet one-way delay: 159.846 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 513.54 Mbit/s
95th percentile per-packet one-way delay: 166.858 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 465.45 Mbit/s
95th percentile per-packet one-way delay: 152.324 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 320.36 Mbit/s
95th percentile per-packet one-way delay: 136.210 ms
Loss rate: 5.80%
Run 1: Report of FillP — Data Link

![Graph 1: Throughput vs Time]

- Flow 1 ingress (mean 515.04 Mbit/s)
- Flow 1 egress (mean 513.54 Mbit/s)
- Flow 2 ingress (mean 470.19 Mbit/s)
- Flow 2 egress (mean 465.45 Mbit/s)
- Flow 3 ingress (mean 333.66 Mbit/s)
- Flow 3 egress (mean 320.36 Mbit/s)

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

- Flow 1 (95th percentile 166.86 ms)
- Flow 2 (95th percentile 152.32 ms)
- Flow 3 (95th percentile 136.21 ms)
Run 2: Statistics of FillP

Start at: 2018-08-10 16:55:38
End at: 2018-08-10 16:56:08
Local clock offset: -0.25 ms
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2018-08-10 22:05:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1083.77 Mbit/s
95th percentile per-packet one-way delay: 182.796 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 622.14 Mbit/s
95th percentile per-packet one-way delay: 190.449 ms
Loss rate: 2.60%
-- Flow 2:
Average throughput: 595.76 Mbit/s
95th percentile per-packet one-way delay: 125.649 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 207.00 Mbit/s
95th percentile per-packet one-way delay: 111.713 ms
Loss rate: 2.98%
Run 2: Report of FillP — Data Link

![Graph of Throughput vs Time](image1)

![Graph of Per-packet one-way delay vs Time](image2)
Run 3: Statistics of FillP

Start at: 2018-08-10 17:21:50
End at: 2018-08-10 17:22:20
Local clock offset: -0.219 ms
Remote clock offset: -0.319 ms

# Below is generated by plot.py at 2018-08-10 22:05:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 827.10 Mbit/s
95th percentile per-packet one-way delay: 125.596 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 447.54 Mbit/s
95th percentile per-packet one-way delay: 119.048 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 404.20 Mbit/s
95th percentile per-packet one-way delay: 122.063 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 339.19 Mbit/s
95th percentile per-packet one-way delay: 187.926 ms
Loss rate: 4.43%
Run 3: Report of FillP — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress (mean 446.92 Mbps)**
- **Flow 1 egress (mean 447.54 Mbps)**
- **Flow 2 ingress (mean 403.96 Mbps)**
- **Flow 2 egress (mean 404.20 Mbps)**
- **Flow 3 ingress (mean 346.76 Mbps)**
- **Flow 3 egress (mean 339.19 Mbps)**

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

- **Flow 1 (95th percentile 119.05 ms)**
- **Flow 2 (95th percentile 122.06 ms)**
- **Flow 3 (95th percentile 187.93 ms)**
Run 4: Statistics of FillP

Start at: 2018-08-10 17:48:11
End at: 2018-08-10 17:48:41
Local clock offset: -0.886 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2018-08-10 22:05:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 861.87 Mbit/s
95th percentile per-packet one-way delay: 136.177 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 475.41 Mbit/s
95th percentile per-packet one-way delay: 132.580 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 427.74 Mbit/s
95th percentile per-packet one-way delay: 156.268 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 312.80 Mbit/s
95th percentile per-packet one-way delay: 131.517 ms
Loss rate: 1.93%
Run 4: Report of FillP — Data Link

**Graph 1:**
- **Flow 1 ingress (mean 473.65 Mbit/s)**
- **Flow 1 egress (mean 475.41 Mbit/s)**
- **Flow 2 ingress (mean 426.20 Mbit/s)**
- **Flow 2 egress (mean 427.76 Mbit/s)**
- **Flow 3 ingress (mean 311.61 Mbit/s)**
- **Flow 3 egress (mean 312.89 Mbit/s)**

**Graph 2:**
- **Flow 1 (95th percentile 132.58 ms)**
- **Flow 2 (95th percentile 156.27 ms)**
- **Flow 3 (95th percentile 131.52 ms)**
Run 5: Statistics of FillP

Start at: 2018-08-10 18:14:06
End at: 2018-08-10 18:14:36
Local clock offset: -0.825 ms
Remote clock offset: -1.958 ms

# Below is generated by plot.py at 2018-08-10 22:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1252.11 Mbit/s
95th percentile per-packet one-way delay: 175.748 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 714.34 Mbit/s
95th percentile per-packet one-way delay: 179.244 ms
Loss rate: 2.67%
-- Flow 2:
Average throughput: 592.01 Mbit/s
95th percentile per-packet one-way delay: 166.809 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 445.01 Mbit/s
95th percentile per-packet one-way delay: 184.308 ms
Loss rate: 2.81%
Run 5: Report of FillP — Data Link

![Graph of data throughput and packet delay over time]

- **Throughput (Mbps)**
  - Flow 1 Ingress (mean 728.61 Mbps)
  - Flow 1 Egress (mean 714.54 Mbps)
  - Flow 2 Ingress (mean 594.05 Mbps)
  - Flow 2 Egress (mean 592.01 Mbps)
  - Flow 3 Ingress (mean 447.62 Mbps)
  - Flow 3 Egress (mean 445.03 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 179.24 ms)
  - Flow 2 (95th percentile 166.81 ms)
  - Flow 3 (95th percentile 104.31 ms)
Run 6: Statistics of FillP

Start at: 2018-08-10 18:41:21
End at: 2018-08-10 18:41:51
Local clock offset: -0.065 ms
Remote clock offset: -4.293 ms

# Below is generated by plot.py at 2018-08-10 22:09:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1198.36 Mbit/s
  95th percentile per-packet one-way delay: 188.668 ms
  Loss rate: 3.35%
-- Flow 1:
  Average throughput: 646.21 Mbit/s
  95th percentile per-packet one-way delay: 189.930 ms
  Loss rate: 3.70%
-- Flow 2:
  Average throughput: 591.60 Mbit/s
  95th percentile per-packet one-way delay: 189.181 ms
  Loss rate: 2.92%
-- Flow 3:
  Average throughput: 490.84 Mbit/s
  95th percentile per-packet one-way delay: 114.777 ms
  Loss rate: 3.00%
Run 6: Report of FillP — Data Link

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

- **Flow 1 Ingress (mean 666.43 Mbit/s)**
- **Flow 1 Egress (mean 646.21 Mbit/s)**
- **Flow 2 Ingress (mean 602.65 Mbit/s)**
- **Flow 2 Egress (mean 591.60 Mbit/s)**
- **Flow 3 Ingress (mean 495.11 Mbit/s)**
- **Flow 3 Egress (mean 490.84 Mbit/s)**

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

- **Flow 1 (95th percentile 189.93 ms)**
- **Flow 2 (95th percentile 189.18 ms)**
- **Flow 3 (95th percentile 114.78 ms)**
Run 7: Statistics of FillP

Start at: 2018-08-10 19:08:28
End at: 2018-08-10 19:08:58
Local clock offset: -0.198 ms
Remote clock offset: -4.615 ms

# Below is generated by plot.py at 2018-08-10 22:10:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1268.65 Mbit/s
95th percentile per-packet one-way delay: 172.706 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 710.05 Mbit/s
95th percentile per-packet one-way delay: 177.466 ms
Loss rate: 2.99%
-- Flow 2:
Average throughput: 590.27 Mbit/s
95th percentile per-packet one-way delay: 152.582 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 512.21 Mbit/s
95th percentile per-packet one-way delay: 137.477 ms
Loss rate: 2.31%
Run 7: Report of FillP — Data Link

Throughput (Mbps/s)

Time (s)

Flow 1 Ingress (mean 726.54 Mbps/s)  Flow 1 Egress (mean 710.05 Mbps/s)
Flow 2 Ingress (mean 593.76 Mbps/s)  Flow 2 Egress (mean 590.27 Mbps/s)
Flow 3 Ingress (mean 513.06 Mbps/s)  Flow 3 Egress (mean 512.21 Mbps/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 177.47 ms)  Flow 2 (95th percentile 152.58 ms)  Flow 3 (95th percentile 137.48 ms)
Run 8: Statistics of FillP

Start at: 2018-08-10 19:36:46
End at: 2018-08-10 19:37:16
Local clock offset: -0.016 ms
Remote clock offset: -2.314 ms

# Below is generated by plot.py at 2018-08-10 22:11:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1199.53 Mbit/s
95th percentile per-packet one-way delay: 188.493 ms
Loss rate: 4.05%
-- Flow 1:
Average throughput: 655.73 Mbit/s
95th percentile per-packet one-way delay: 192.556 ms
Loss rate: 5.09%
-- Flow 2:
Average throughput: 592.82 Mbit/s
95th percentile per-packet one-way delay: 185.876 ms
Loss rate: 2.95%
-- Flow 3:
Average throughput: 461.88 Mbit/s
95th percentile per-packet one-way delay: 126.000 ms
Loss rate: 2.28%
Run 8: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 686.05 Mbit/s)
- Flow 1 Egress (mean 655.73 Mbit/s)
- Flow 2 Ingress (mean 604.05 Mbit/s)
- Flow 2 Egress (mean 592.82 Mbit/s)
- Flow 3 Ingress (mean 461.85 Mbit/s)
- Flow 3 Egress (mean 461.88 Mbit/s)

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

- Flow 1 (95th percentile 192.56 ms)
- Flow 2 (95th percentile 185.88 ms)
- Flow 3 (95th percentile 126.00 ms)
Run 9: Statistics of FillP

Start at: 2018-08-10 20:04:17
End at: 2018-08-10 20:04:47
Local clock offset: -0.071 ms
Remote clock offset: -0.806 ms

# Below is generated by plot.py at 2018-08-10 22:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1218.12 Mbit/s
95th percentile per-packet one-way delay: 176.465 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 690.23 Mbit/s
95th percentile per-packet one-way delay: 177.991 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 578.76 Mbit/s
95th percentile per-packet one-way delay: 173.128 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 442.85 Mbit/s
95th percentile per-packet one-way delay: 142.522 ms
Loss rate: 2.17%
Run 9: Report of FillP — Data Link

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

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 703.54 Mbps)
Flow 1 egress (mean 690.23 Mbps)
Flow 2 ingress (mean 580.46 Mbps)
Flow 2 egress (mean 578.76 Mbps)
Flow 3 ingress (mean 442.58 Mbps)
Flow 3 egress (mean 442.85 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 177.99 ms)
Flow 2 (95th percentile 173.13 ms)
Flow 3 (95th percentile 142.52 ms)
Run 10: Statistics of FillP

Start at: 2018-08-10 20:31:27
End at: 2018-08-10 20:31:57
Local clock offset: -0.022 ms
Remote clock offset: -0.399 ms

# Below is generated by plot.py at 2018-08-10 22:26:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1189.54 Mbit/s
  95th percentile per-packet one-way delay: 182.182 ms
  Loss rate: 2.99%
-- Flow 1:
  Average throughput: 669.47 Mbit/s
  95th percentile per-packet one-way delay: 180.779 ms
  Loss rate: 2.32%
-- Flow 2:
  Average throughput: 556.46 Mbit/s
  95th percentile per-packet one-way delay: 188.289 ms
  Loss rate: 4.29%
-- Flow 3:
  Average throughput: 462.26 Mbit/s
  95th percentile per-packet one-way delay: 157.923 ms
  Loss rate: 2.77%
Run 10: Report of FILLP — Data Link

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

- Flow 1 Ingress (mean 680.23 Mbit/s)
- Flow 1 Egress (mean 669.47 Mbit/s)
- Flow 2 Ingress (mean 574.89 Mbit/s)
- Flow 2 Egress (mean 556.46 Mbit/s)
- Flow 3 Ingress (mean 464.76 Mbit/s)
- Flow 3 Egress (mean 462.26 Mbit/s)

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

- Flow 1 95th percentile 180.78 ms
- Flow 2 95th percentile 188.29 ms
- Flow 3 95th percentile 157.92 ms

83
Run 1: Statistics of FillP-Sheep

Start at: 2018-08-10 16:40:33
End at: 2018-08-10 16:41:03
Local clock offset: -0.144 ms
Remote clock offset: -0.182 ms

# Below is generated by plot.py at 2018-08-10 22:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1109.86 Mbit/s
95th percentile per-packet one-way delay: 184.822 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 585.80 Mbit/s
95th percentile per-packet one-way delay: 187.272 ms
Loss rate: 3.46%
-- Flow 2:
Average throughput: 564.55 Mbit/s
95th percentile per-packet one-way delay: 175.207 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 457.49 Mbit/s
95th percentile per-packet one-way delay: 186.116 ms
Loss rate: 2.20%
Run 1: Report of FillP-Sheep — Data Link

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

Throughput (Mbps/s)

0 5 10 15 20 25 30

Time (s)

Flows:
- Flow 1 ingress (mean 602.31 Mbps/s)
- Flow 1 egress (mean 585.80 Mbps/s)
- Flow 2 ingress (mean 569.61 Mbps/s)
- Flow 2 egress (mean 564.55 Mbps/s)
- Flow 3 ingress (mean 457.33 Mbps/s)
- Flow 3 egress (mean 457.49 Mbps/s)

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

Per-packet one-way delay (ms)

0 5 10 15 20 25 30

Time (s)

Flows:
- Flow 1 (95th percentile 187.27 ms)
- Flow 2 (95th percentile 175.21 ms)
- Flow 3 (95th percentile 156.12 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2018-08-10 17:06:40
End at: 2018-08-10 17:07:10
Local clock offset: -0.105 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-08-10 22:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 983.20 Mbit/s
95th percentile per-packet one-way delay: 153.396 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 531.90 Mbit/s
95th percentile per-packet one-way delay: 164.070 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 504.54 Mbit/s
95th percentile per-packet one-way delay: 143.901 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 362.23 Mbit/s
95th percentile per-packet one-way delay: 122.124 ms
Loss rate: 3.37%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-10 17:32:52
End at: 2018-08-10 17:33:22
Local clock offset: -1.592 ms
Remote clock offset: -0.25 ms

# Below is generated by plot.py at 2018-08-10 22:31:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1019.76 Mbit/s
  95th percentile per-packet one-way delay: 155.247 ms
  Loss rate: 1.04%
-- Flow 1:
  Average throughput: 583.89 Mbit/s
  95th percentile per-packet one-way delay: 152.319 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 480.31 Mbit/s
  95th percentile per-packet one-way delay: 161.199 ms
  Loss rate: 1.20%
-- Flow 3:
  Average throughput: 360.07 Mbit/s
  95th percentile per-packet one-way delay: 114.249 ms
  Loss rate: 1.91%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

Start at: 2018-08-10 17:58:58
End at: 2018-08-10 17:59:28
Local clock offset: -0.211 ms
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2018-08-10 22:31:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 915.35 Mbit/s
  95th percentile per-packet one-way delay: 170.283 ms
  Loss rate: 1.22%
-- Flow 1:
  Average throughput: 495.35 Mbit/s
  95th percentile per-packet one-way delay: 180.603 ms
  Loss rate: 1.47%
-- Flow 2:
  Average throughput: 466.93 Mbit/s
  95th percentile per-packet one-way delay: 146.844 ms
  Loss rate: 0.55%
-- Flow 3:
  Average throughput: 339.47 Mbit/s
  95th percentile per-packet one-way delay: 148.461 ms
  Loss rate: 1.95%
Run 4: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 496.97 Mbps)
- Flow 1 egress (mean 495.35 Mbps)
- Flow 2 ingress (mean 464.25 Mbps)
- Flow 2 egress (mean 466.93 Mbps)
- Flow 3 ingress (mean 338.14 Mbps)
- Flow 3 egress (mean 339.47 Mbps)

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

- Flow 1 (95th percentile 180.60 ms)
- Flow 2 (95th percentile 146.84 ms)
- Flow 3 (95th percentile 148.46 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2018-08-10 18:25:28
End at: 2018-08-10 18:25:58
Local clock offset: -0.21 ms
Remote clock offset: -4.624 ms

# Below is generated by plot.py at 2018-08-10 22:35:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1129.83 Mbit/s
95th percentile per-packet one-way delay: 176.019 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 624.39 Mbit/s
95th percentile per-packet one-way delay: 182.586 ms
Loss rate: 3.67%
-- Flow 2:
Average throughput: 543.90 Mbit/s
95th percentile per-packet one-way delay: 133.797 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 443.05 Mbit/s
95th percentile per-packet one-way delay: 116.364 ms
Loss rate: 2.94%
Run 5: Report of FillP-Sheep — Data Link

[Graph showing throughput and delay over time for different flows, with annotations for mean values in Mbit/s and 95th percentile delay in ms.]
Run 6: Statistics of FillP-Sheep

Start at: 2018-08-10 18:52:48
End at: 2018-08-10 18:53:18
Local clock offset: -0.204 ms
Remote clock offset: -3.515 ms

# Below is generated by plot.py at 2018-08-10 22:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1103.69 Mbit/s
95th percentile per-packet one-way delay: 190.931 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 598.93 Mbit/s
95th percentile per-packet one-way delay: 198.407 ms
Loss rate: 4.20%
-- Flow 2:
Average throughput: 556.41 Mbit/s
95th percentile per-packet one-way delay: 149.585 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 418.42 Mbit/s
95th percentile per-packet one-way delay: 116.123 ms
Loss rate: 2.28%
Run 6: Report of FillP-Sheep — Data Link

![Graph showing throughput and delay over time for three flows.](image-url)
Run 7: Statistics of FillP-Sheep

Start at: 2018-08-10 19:20:06
End at: 2018-08-10 19:20:36
Local clock offset: -0.072 ms
Remote clock offset: -1.899 ms

# Below is generated by plot.py at 2018-08-10 22:51:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1108.60 Mbit/s
95th percentile per-packet one-way delay: 182.609 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 601.60 Mbit/s
95th percentile per-packet one-way delay: 188.369 ms
Loss rate: 4.79%
-- Flow 2:
Average throughput: 551.69 Mbit/s
95th percentile per-packet one-way delay: 153.704 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 433.60 Mbit/s
95th percentile per-packet one-way delay: 127.806 ms
Loss rate: 2.13%
Run 7: Report of FillP-Sheep — Data Link
Run 8: Statistics of FillP-Sheep

Start at: 2018-08-10 19:48:22
End at: 2018-08-10 19:48:52
Local clock offset: 2.612 ms
Remote clock offset: -1.555 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1138.71 Mbit/s
95th percentile per-packet one-way delay: 182.853 ms
Loss rate: 2.99%
-- Flow 1:
Average throughput: 630.38 Mbit/s
95th percentile per-packet one-way delay: 187.224 ms
Loss rate: 3.39%
-- Flow 2:
Average throughput: 562.25 Mbit/s
95th percentile per-packet one-way delay: 178.026 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 416.80 Mbit/s
95th percentile per-packet one-way delay: 132.948 ms
Loss rate: 1.87%
Run 8: Report of FillP-Sheep — Data Link
Run 9: Statistics of FillP-Sheep

Start at: 2018-08-10 20:15:42
End at: 2018-08-10 20:16:12
Local clock offset: -0.058 ms
Remote clock offset: -0.828 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1105.07 Mbit/s
  95th percentile per-packet one-way delay: 173.748 ms
  Loss rate: 2.44%
-- Flow 1:
  Average throughput: 636.80 Mbit/s
  95th percentile per-packet one-way delay: 177.395 ms
  Loss rate: 3.19%
-- Flow 2:
  Average throughput: 529.56 Mbit/s
  95th percentile per-packet one-way delay: 142.789 ms
  Loss rate: 1.03%
-- Flow 3:
  Average throughput: 360.72 Mbit/s
  95th percentile per-packet one-way delay: 134.621 ms
  Loss rate: 2.51%
Run 9: Report of FillP-Sheep — Data Link

![Graph of throughput and packet delay over time for different flows.](image-url)
Run 10: Statistics of FillP-Sheep

Start at: 2018-08-10 20:42:53
End at: 2018-08-10 20:43:23
Local clock offset: -0.066 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1067.27 Mbit/s
  95th percentile per-packet one-way delay: 191.518 ms
  Loss rate: 3.02%
-- Flow 1:
  Average throughput: 594.69 Mbit/s
  95th percentile per-packet one-way delay: 191.990 ms
  Loss rate: 3.11%
-- Flow 2:
  Average throughput: 511.95 Mbit/s
  95th percentile per-packet one-way delay: 193.339 ms
  Loss rate: 3.14%
-- Flow 3:
  Average throughput: 409.19 Mbit/s
  95th percentile per-packet one-way delay: 118.841 ms
  Loss rate: 2.32%
Run 10: Report of FillP-Sheep — Data Link

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

Throughput (Mbit/s)

0 5 10 15 20 25 30

Time (s)

Flows:
- Flow 1 ingress (mean 608.87 Mbit/s)
- Flow 1 egress (mean 594.69 Mbit/s)
- Flow 2 ingress (mean 522.60 Mbit/s)
- Flow 2 egress (mean 511.95 Mbit/s)
- Flow 3 ingress (mean 409.49 Mbit/s)
- Flow 3 egress (mean 409.19 Mbit/s)

Delay (ms)

0 5 10 15 20 25 30

Time (s)

Flows:
- Flow 1 (95th percentile 191.99 ms)
- Flow 2 (95th percentile 193.34 ms)
- Flow 3 (95th percentile 118.84 ms)
Run 1: Statistics of Indigo

Start at: 2018-08-10 16:31:31
End at: 2018-08-10 16:32:01
Local clock offset: -0.792 ms
Remote clock offset: -0.252 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 249.92 Mbit/s
  95th percentile per-packet one-way delay: 112.686 ms
  Loss rate: 1.09%
-- Flow 1:
  Average throughput: 127.60 Mbit/s
  95th percentile per-packet one-way delay: 112.263 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 126.73 Mbit/s
  95th percentile per-packet one-way delay: 112.951 ms
  Loss rate: 1.03%
-- Flow 3:
  Average throughput: 109.21 Mbit/s
  95th percentile per-packet one-way delay: 113.324 ms
  Loss rate: 2.38%
Run 1: Report of Indigo — Data Link

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

Flow 1 ingress (mean 127.58 Mbit/s)  
Flow 1 egress (mean 127.60 Mbit/s)  
Flow 2 ingress (mean 126.60 Mbit/s)  
Flow 2 egress (mean 126.73 Mbit/s)  
Flow 3 ingress (mean 109.34 Mbit/s)  
Flow 3 egress (mean 109.21 Mbit/s)  

Flow 1 (95th percentile 112.26 ms)  
Flow 2 (95th percentile 112.95 ms)  
Flow 3 (95th percentile 113.32 ms)
Run 2: Statistics of Indigo

Start at: 2018-08-10 16:57:43
End at: 2018-08-10 16:58:13
Local clock offset: -0.008 ms
Remote clock offset: 0.09 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 263.95 Mbit/s
  95th percentile per-packet one-way delay: 111.651 ms
  Loss rate: 1.27%
-- Flow 1:
  Average throughput: 135.64 Mbit/s
  95th percentile per-packet one-way delay: 111.692 ms
  Loss rate: 0.75%
-- Flow 2:
  Average throughput: 135.63 Mbit/s
  95th percentile per-packet one-way delay: 111.791 ms
  Loss rate: 1.23%
-- Flow 3:
  Average throughput: 119.87 Mbit/s
  95th percentile per-packet one-way delay: 111.140 ms
  Loss rate: 3.13%
Run 2: Report of Indigo — Data Link

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

Legend:
- **Flow 1 ingress** (mean 135.65 Mbit/s)
- **Flow 1 egress** (mean 135.64 Mbit/s)
- **Flow 2 ingress** (mean 135.79 Mbit/s)
- **Flow 2 egress** (mean 135.63 Mbit/s)
- **Flow 3 ingress** (mean 126.02 Mbit/s)
- **Flow 3 egress** (mean 119.87 Mbit/s)

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

Legend:
- **Flow 1 (95th percentile 111.69 ms)**
- **Flow 2 (95th percentile 111.79 ms)**
- **Flow 3 (95th percentile 111.14 ms)**
Run 3: Statistics of Indigo

Start at: 2018-08-10 17:23:44
End at: 2018-08-10 17:24:14
Local clock offset: 0.007 ms
Remote clock offset: -0.303 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.47 Mbit/s
95th percentile per-packet one-way delay: 112.858 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 156.12 Mbit/s
95th percentile per-packet one-way delay: 112.141 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 129.41 Mbit/s
95th percentile per-packet one-way delay: 114.975 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 91.71 Mbit/s
95th percentile per-packet one-way delay: 113.123 ms
Loss rate: 3.34%
Run 3: Report of Indigo — Data Link
Run 4: Statistics of Indigo

Start at: 2018-08-10 17:50:06
End at: 2018-08-10 17:50:36
Local clock offset: -1.397 ms
Remote clock offset: -0.609 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.74 Mbit/s
95th percentile per-packet one-way delay: 111.531 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 129.96 Mbit/s
95th percentile per-packet one-way delay: 111.392 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 121.43 Mbit/s
95th percentile per-packet one-way delay: 111.475 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 100.68 Mbit/s
95th percentile per-packet one-way delay: 112.284 ms
Loss rate: 2.96%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2018-08-10 18:16:18
End at: 2018-08-10 18:16:48
Local clock offset: 0.076 ms
Remote clock offset: -2.458 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 294.89 Mbit/s
  95th percentile per-packet one-way delay: 112.243 ms
  Loss rate: 1.20%
-- Flow 1:
  Average throughput: 147.69 Mbit/s
  95th percentile per-packet one-way delay: 111.762 ms
  Loss rate: 0.76%
-- Flow 2:
  Average throughput: 140.49 Mbit/s
  95th percentile per-packet one-way delay: 112.049 ms
  Loss rate: 1.20%
-- Flow 3:
  Average throughput: 167.87 Mbit/s
  95th percentile per-packet one-way delay: 115.225 ms
  Loss rate: 2.38%
Run 5: Report of Indigo — Data Link

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

- **Flow 1 (ingress):** Mean 147.73 Mbit/s
- **Flow 1 (egress):** Mean 147.69 Mbit/s
- **Flow 2 (ingress):** Mean 140.62 Mbit/s
- **Flow 2 (egress):** Mean 140.49 Mbit/s
- **Flow 3 (ingress):** Mean 168.06 Mbit/s
- **Flow 3 (egress):** Mean 167.87 Mbit/s

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

- **Flow 1 (95th percentile):** 111.76 ms
- **Flow 2 (95th percentile):** 112.05 ms
- **Flow 3 (95th percentile):** 115.22 ms
Run 6: Statistics of Indigo

Start at: 2018-08-10 18:43:31
End at: 2018-08-10 18:44:01
Local clock offset: -0.027 ms
Remote clock offset: -3.812 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 368.23 Mbit/s
95th percentile per-packet one-way delay: 112.112 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 200.87 Mbit/s
95th percentile per-packet one-way delay: 111.932 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 189.38 Mbit/s
95th percentile per-packet one-way delay: 112.472 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 126.58 Mbit/s
95th percentile per-packet one-way delay: 111.985 ms
Loss rate: 2.81%
Run 6: Report of Indigo — Data Link

![Graph](image-url)

Legend:
- Blue dashed line: Flow 1 ingress (mean 200.74 Mbit/s)
- Blue solid line: Flow 1 egress (mean 200.87 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 189.18 Mbit/s)
- Green solid line: Flow 2 egress (mean 189.38 Mbit/s)
- Gray dashed line: Flow 3 ingress (mean 127.26 Mbit/s)
- Gray solid line: Flow 3 egress (mean 126.58 Mbit/s)

![Graph](image-url)

Legend:
- Blue circles: Flow 1 (95th percentile 111.93 ms)
- Green circles: Flow 2 (95th percentile 112.47 ms)
- Red circles: Flow 3 (95th percentile 111.98 ms)
Run 7: Statistics of Indigo

Start at: 2018-08-10 19:10:46
End at: 2018-08-10 19:11:16
Local clock offset: -0.056 ms
Remote clock offset: -4.581 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 320.62 Mbit/s
  95th percentile per-packet one-way delay: 111.767 ms
  Loss rate: 1.10%
  -- Flow 1:
    Average throughput: 150.98 Mbit/s
    95th percentile per-packet one-way delay: 111.683 ms
    Loss rate: 0.77%
  -- Flow 2:
    Average throughput: 195.14 Mbit/s
    95th percentile per-packet one-way delay: 111.867 ms
    Loss rate: 0.97%
  -- Flow 3:
    Average throughput: 127.13 Mbit/s
    95th percentile per-packet one-way delay: 111.870 ms
    Loss rate: 2.72%
Run 7: Report of Indigo — Data Link

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

![Graph 2: Packet Delay vs Time](image2)
Run 8: Statistics of Indigo

Start at: 2018-08-10 19:39:06
End at: 2018-08-10 19:39:36
Local clock offset: -0.117 ms
Remote clock offset: -2.0 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.35 Mbit/s
95th percentile per-packet one-way delay: 111.075 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 203.40 Mbit/s
95th percentile per-packet one-way delay: 110.967 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 140.51 Mbit/s
95th percentile per-packet one-way delay: 111.206 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 126.99 Mbit/s
95th percentile per-packet one-way delay: 111.265 ms
Loss rate: 2.81%
Run 8: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 203.25 Mb/s)
- Flow 1 egress (mean 203.40 Mb/s)
- Flow 2 ingress (mean 140.62 Mb/s)
- Flow 2 egress (mean 140.51 Mb/s)
- Flow 3 ingress (mean 127.86 Mb/s)
- Flow 3 egress (mean 126.99 Mb/s)

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

- Flow 1 (95th percentile 110.97 ms)
- Flow 2 (95th percentile 111.21 ms)
- Flow 3 (95th percentile 111.27 ms)
Run 9: Statistics of Indigo

Start at: 2018-08-10 20:06:28
End at: 2018-08-10 20:06:58
Local clock offset: -0.1 ms
Remote clock offset: -0.397 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.01 Mbit/s
95th percentile per-packet one-way delay: 111.127 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 145.78 Mbit/s
95th percentile per-packet one-way delay: 110.840 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 138.90 Mbit/s
95th percentile per-packet one-way delay: 111.264 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 152.24 Mbit/s
95th percentile per-packet one-way delay: 111.829 ms
Loss rate: 2.67%
Run 9: Report of Indigo — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 145.88 Mbit/s)
Flow 1 egress (mean 145.78 Mbit/s)
Flow 2 ingress (mean 139.07 Mbit/s)
Flow 2 egress (mean 138.90 Mbit/s)
Flow 3 ingress (mean 152.89 Mbit/s)
Flow 3 egress (mean 152.24 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 110.84 ms)
Flow 2 (95th percentile 111.26 ms)
Flow 3 (95th percentile 111.03 ms)
Run 10: Statistics of Indigo

Start at: 2018-08-10 20:33:37
End at: 2018-08-10 20:34:07
Local clock offset: 0.01 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 275.20 Mbit/s
  95th percentile per-packet one-way delay: 111.792 ms
  Loss rate: 1.25%
-- Flow 1:
  Average throughput: 145.78 Mbit/s
  95th percentile per-packet one-way delay: 111.834 ms
  Loss rate: 0.78%
-- Flow 2:
  Average throughput: 141.21 Mbit/s
  95th percentile per-packet one-way delay: 111.766 ms
  Loss rate: 1.21%
-- Flow 3:
  Average throughput: 111.52 Mbit/s
  95th percentile per-packet one-way delay: 111.397 ms
  Loss rate: 3.19%
Run 10: Report of Indigo — Data Link

![Graph showing network throughput and packet delay over time for three flows: Flow 1, Flow 2, and Flow 3.]

**Throughput (Mbps):**
- Flow 1 ingress (mean 145.83 Mbps)
- Flow 1 egress (mean 145.78 Mbps)
- Flow 2 ingress (mean 141.34 Mbps)
- Flow 2 egress (mean 141.21 Mbps)
- Flow 3 ingress (mean 122.56 Mbps)
- Flow 3 egress (mean 111.52 Mbps)

**Packet Delay (ms):**
- Flow 1 (95th percentile 111.83 ms)
- Flow 2 (95th percentile 111.77 ms)
- Flow 3 (95th percentile 111.40 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-08-10 16:42:40
End at: 2018-08-10 16:43:10
Local clock offset: -0.104 ms
Remote clock offset: -0.182 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.92 Mbit/s
95th percentile per-packet one-way delay: 112.301 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 112.405 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 112.076 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 112.146 ms
Loss rate: 4.56%
Run 1: Report of LEDBAT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.27 Mbps)
Flow 1 egress (mean 6.22 Mbps)
Flow 2 ingress (mean 4.54 Mbps)
Flow 2 egress (mean 4.48 Mbps)
Flow 3 ingress (mean 2.36 Mbps)
Flow 3 egress (mean 2.31 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 112.41 ms)
Flow 2 (95th percentile 112.08 ms)
Flow 3 (95th percentile 112.15 ms)
Run 2: Statistics of LEDBAT

Start at: 2018-08-10 17:08:40
End at: 2018-08-10 17:09:10
Local clock offset: -0.784 ms
Remote clock offset: -0.309 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 111.079 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 111.052 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 111.214 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 110.907 ms
Loss rate: 4.55%
Run 2: Report of LEDBAT — Data Link
Run 3: Statistics of LEDBAT

Start at: 2018-08-10 17:34:56
End at: 2018-08-10 17:35:26
Local clock offset: -1.348 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 111.017 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 111.007 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 111.071 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 110.687 ms
Loss rate: 4.53%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2018-08-10 18:00:55
End at: 2018-08-10 18:01:25
Local clock offset: -0.534 ms
Remote clock offset: 0.149 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 11.03 Mbit/s
  95th percentile per-packet one-way delay: 112.418 ms
  Loss rate: 1.92%
-- Flow 1:
  Average throughput: 7.20 Mbit/s
  95th percentile per-packet one-way delay: 112.306 ms
  Loss rate: 1.50%
-- Flow 2:
  Average throughput: 4.65 Mbit/s
  95th percentile per-packet one-way delay: 112.698 ms
  Loss rate: 2.26%
-- Flow 3:
  Average throughput: 2.29 Mbit/s
  95th percentile per-packet one-way delay: 112.987 ms
  Loss rate: 4.55%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2018-08-10 18:27:35
End at: 2018-08-10 18:28:05
Local clock offset: -0.166 ms
Remote clock offset: -5.533 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.15 Mbit/s
95th percentile per-packet one-way delay: 112.205 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 112.352 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 111.976 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 111.786 ms
Loss rate: 4.57%
Run 5: Report of LEDBAT — Data Link
Run 6: Statistics of LEDBAT

Start at: 2018-08-10 18:54:54
End at: 2018-08-10 18:55:24
Local clock offset: -0.01 ms
Remote clock offset: -3.235 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 7.98 Mbit/s
  95th percentile per-packet one-way delay: 111.658 ms
  Loss rate: 2.06%
-- Flow 1:
  Average throughput: 4.30 Mbit/s
  95th percentile per-packet one-way delay: 111.567 ms
  Loss rate: 1.51%
-- Flow 2:
  Average throughput: 4.81 Mbit/s
  95th percentile per-packet one-way delay: 111.843 ms
  Loss rate: 2.25%
-- Flow 3:
  Average throughput: 1.58 Mbit/s
  95th percentile per-packet one-way delay: 112.428 ms
  Loss rate: 5.36%
Run 6: Report of LEDBAT — Data Link
Run 7: Statistics of LEDBAT

Start at: 2018-08-10 19:22:18
End at: 2018-08-10 19:22:48
Local clock offset: -0.159 ms
Remote clock offset: -2.484 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.92 Mbit/s
95th percentile per-packet one-way delay: 112.212 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 112.296 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 111.891 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 112.023 ms
Loss rate: 4.60%
Run 7: Report of LEDBAT — Data Link

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- Throughput (Mb/s)
  - Flow 1 ingress (mean 7.30 Mb/s)
  - Flow 1 egress (mean 7.24 Mb/s)
  - Flow 2 ingress (mean 3.00 Mb/s)
  - Flow 2 egress (mean 2.95 Mb/s)
  - Flow 3 ingress (mean 2.31 Mb/s)
  - Flow 3 egress (mean 2.26 Mb/s)

- Perceived one-way delay (ms)
  - Flow 1 (95th percentile 112.30 ms)
  - Flow 2 (95th percentile 111.89 ms)
  - Flow 3 (95th percentile 111.02 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-08-10 19:50:31
End at: 2018-08-10 19:51:01
Local clock offset: 0.003 ms
Remote clock offset: -1.34 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.26 Mbit/s
95th percentile per-packet one-way delay: 111.992 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 7.37 Mbit/s
95th percentile per-packet one-way delay: 111.955 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 112.062 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 112.031 ms
Loss rate: 4.53%
Run 8: Report of LEDBAT — Data Link

![Graph of data link throughput and latency over time]

- **Flow 1 ingress** (mean 7.42 Mbps)
- **Flow 1 egress** (mean 7.37 Mbps)
- **Flow 2 ingress** (mean 4.84 Mbps)
- **Flow 2 egress** (mean 4.76 Mbps)
- **Flow 3 ingress** (mean 2.39 Mbps)
- **Flow 3 egress** (mean 2.31 Mbps)

![Graph of data link one-way delay over time]

- **Flow 1** (95th percentile 111.95 ms)
- **Flow 2** (95th percentile 112.06 ms)
- **Flow 3** (95th percentile 112.03 ms)
Run 9: Statistics of LEDBAT

Start at: 2018-08-10 20:17:48
End at: 2018-08-10 20:18:18
Local clock offset: -0.159 ms
Remote clock offset: -0.782 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 111.566 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 111.844 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 111.040 ms
Loss rate: 2.23%
-- Flow 3:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 111.082 ms
Loss rate: 2.29%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-08-10 20:44:58
End at: 2018-08-10 20:45:28
Local clock offset: -2.975 ms
Remote clock offset: -0.31 ms

# Below is generated by plot.py at 2018-08-10 22:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 108.365 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 108.491 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 108.070 ms
Loss rate: 3.28%
-- Flow 3:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 107.860 ms
Loss rate: 4.47%
Run 10: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-10 16:43:54
End at: 2018-08-10 16:44:24
Local clock offset: 1.459 ms
Remote clock offset: -0.274 ms

# Below is generated by plot.py at 2018-08-10 22:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 611.54 Mbit/s
95th percentile per-packet one-way delay: 188.252 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 431.33 Mbit/s
95th percentile per-packet one-way delay: 189.501 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 242.29 Mbit/s
95th percentile per-packet one-way delay: 184.782 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 63.02 Mbit/s
95th percentile per-packet one-way delay: 185.681 ms
Loss rate: 2.21%
Run 1: Report of PCC-Allegro — Data Link

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

- Flow 1 Ingress (mean 436.75 Mbps/s)
- Flow 1 Egress (mean 431.33 Mbps/s)
- Flow 2 Ingress (mean 245.33 Mbps/s)
- Flow 2 Egress (mean 242.29 Mbps/s)
- Flow 3 Ingress (mean 63.00 Mbps/s)
- Flow 3 Egress (mean 63.02 Mbps/s)

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

- Flow 1 (95th percentile 189.50 ms)
- Flow 2 (95th percentile 184.78 ms)
- Flow 3 (95th percentile 185.68 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-10 17:09:54
End at: 2018-08-10 17:10:24
Local clock offset: -1.561 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2018-08-10 22:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.28 Mbit/s
95th percentile per-packet one-way delay: 219.859 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 403.72 Mbit/s
95th percentile per-packet one-way delay: 237.921 ms
Loss rate: 2.94%
-- Flow 2:
Average throughput: 244.54 Mbit/s
95th percentile per-packet one-way delay: 164.139 ms
Loss rate: 2.97%
-- Flow 3:
Average throughput: 62.09 Mbit/s
95th percentile per-packet one-way delay: 144.112 ms
Loss rate: 2.38%
Run 3: Statistics of PCC-Allegro

Start at: 2018-08-10 17:36:10
End at: 2018-08-10 17:36:40
Local clock offset: -0.121 ms
Remote clock offset: -0.238 ms

# Below is generated by plot.py at 2018-08-10 22:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 644.41 Mbit/s
95th percentile per-packet one-way delay: 218.293 ms
Loss rate: 4.70%
-- Flow 1:
Average throughput: 431.28 Mbit/s
95th percentile per-packet one-way delay: 224.495 ms
Loss rate: 3.80%
-- Flow 2:
Average throughput: 267.68 Mbit/s
95th percentile per-packet one-way delay: 210.360 ms
Loss rate: 5.58%
-- Flow 3:
Average throughput: 111.41 Mbit/s
95th percentile per-packet one-way delay: 194.706 ms
Loss rate: 10.55%
Run 3: Report of PCC-Allegro — Data Link

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

- Flow 1 Ingress (mean 444.97 Mbit/s)
- Flow 1 Egress (mean 431.28 Mbit/s)
- Flow 2 Ingress (mean 280.32 Mbit/s)
- Flow 2 Egress (mean 267.68 Mbit/s)
- Flow 3 Ingress (mean 121.73 Mbit/s)
- Flow 3 Egress (mean 111.41 Mbit/s)

![Graph 2: Per-packet One-Way Delay vs Time](image2)

- Flow 1 (95th percentile 224.50 ms)
- Flow 2 (95th percentile 210.36 ms)
- Flow 3 (95th percentile 194.71 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2018-08-10 18:02:09
End at: 2018-08-10 18:02:39
Local clock offset: -0.071 ms
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2018-08-10 23:01:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 543.19 Mbit/s
  95th percentile per-packet one-way delay: 173.307 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 385.29 Mbit/s
  95th percentile per-packet one-way delay: 171.204 ms
  Loss rate: 0.87%
-- Flow 2:
  Average throughput: 231.16 Mbit/s
  95th percentile per-packet one-way delay: 185.420 ms
  Loss rate: 1.65%
-- Flow 3:
  Average throughput: 17.07 Mbit/s
  95th percentile per-packet one-way delay: 182.943 ms
  Loss rate: 2.39%
Run 4: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 385.79 Mbps)
- Flow 1 egress (mean 385.29 Mbps)
- Flow 2 ingress (mean 232.34 Mbps)
- Flow 2 egress (mean 231.16 Mbps)
- Flow 3 ingress (mean 17.09 Mbps)
- Flow 3 egress (mean 17.07 Mbps)

![Graph of Per Packet One Way Delay (ms) over Time (s)]

- Flow 1 (95th percentile 171.20 ms)
- Flow 2 (95th percentile 185.42 ms)
- Flow 3 (95th percentile 182.94 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2018-08-10 18:28:49
End at: 2018-08-10 18:29:19
Local clock offset: -0.633 ms
Remote clock offset: -5.446 ms

# Below is generated by plot.py at 2018-08-10 23:04:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 681.86 Mbit/s
95th percentile per-packet one-way delay: 254.244 ms
Loss rate: 4.53%
-- Flow 1:
Average throughput: 529.61 Mbit/s
95th percentile per-packet one-way delay: 257.682 ms
Loss rate: 4.50%
-- Flow 2:
Average throughput: 227.81 Mbit/s
95th percentile per-packet one-way delay: 198.526 ms
Loss rate: 4.66%
-- Flow 3:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 198.217 ms
Loss rate: 3.55%
Run 5: Report of PCC-Allegro — Data Link

![Graph showing network performance metrics over time.]

- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 550.48 Mbps)
  - Flow 1 Egress (mean 529.61 Mbps)
  - Flow 2 Ingress (mean 236.29 Mbps)
  - Flow 2 Egress (mean 227.81 Mbps)
  - Flow 3 Ingress (mean 4.49 Mbps)
  - Flow 3 Egress (mean 4.43 Mbps)

- **Packet loss over delay (ms):**
  - Flow 1 (95th percentile 257.68 ms)
  - Flow 2 (95th percentile 198.53 ms)
  - Flow 3 (95th percentile 198.22 ms)
Run 6: Statistics of PCC-Allegro

Start at: 2018-08-10 18:56:08
End at: 2018-08-10 18:56:38
Local clock offset: -0.004 ms
Remote clock offset: -3.381 ms

# Below is generated by plot.py at 2018-08-10 23:04:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 639.13 Mbit/s
  95th percentile per-packet one-way delay: 234.170 ms
  Loss rate: 4.32%
  -- Flow 1:
    Average throughput: 443.61 Mbit/s
    95th percentile per-packet one-way delay: 251.235 ms
    Loss rate: 4.55%
  -- Flow 2:
    Average throughput: 264.67 Mbit/s
    95th percentile per-packet one-way delay: 196.429 ms
    Loss rate: 3.80%
  -- Flow 3:
    Average throughput: 62.51 Mbit/s
    95th percentile per-packet one-way delay: 196.553 ms
    Loss rate: 4.02%
Run 6: Report of PCC-Allegro — Data Link

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

- **Flow 1 Ingress** (mean 461.29 Mb/s)
- **Flow 1 Egress** (mean 443.61 Mb/s)
- **Flow 2 Ingress** (mean 272.04 Mb/s)
- **Flow 2 Egress** (mean 264.67 Mb/s)
- **Flow 3 Ingress** (mean 63.62 Mb/s)
- **Flow 3 Egress** (mean 62.51 Mb/s)
Run 7: Statistics of PCC-Allegro

Start at: 2018-08-10 19:23:32
End at: 2018-08-10 19:24:02
Local clock offset: -0.115 ms
Remote clock offset: -1.671 ms

# Below is generated by plot.py at 2018-08-10 23:04:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 631.47 Mbit/s
95th percentile per-packet one-way delay: 225.161 ms
Loss rate: 3.43%
-- Flow 1:
Average throughput: 424.54 Mbit/s
95th percentile per-packet one-way delay: 232.785 ms
Loss rate: 3.87%
-- Flow 2:
Average throughput: 296.47 Mbit/s
95th percentile per-packet one-way delay: 163.459 ms
Loss rate: 2.53%
-- Flow 3:
Average throughput: 32.80 Mbit/s
95th percentile per-packet one-way delay: 163.173 ms
Loss rate: 2.21%
Run 7: Report of PCC-Allegro — Data Link
Run 8: Statistics of PCC-Allegro

Start at: 2018-08-10 19:51:45
End at: 2018-08-10 19:52:15
Local clock offset: -3.02 ms
Remote clock offset: -1.605 ms

# Below is generated by plot.py at 2018-08-10 23:04:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 652.34 Mbit/s
95th percentile per-packet one-way delay: 240.284 ms
Loss rate: 4.77%
-- Flow 1:
Average throughput: 485.02 Mbit/s
95th percentile per-packet one-way delay: 257.485 ms
Loss rate: 5.32%
-- Flow 2:
Average throughput: 244.31 Mbit/s
95th percentile per-packet one-way delay: 194.625 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 17.12 Mbit/s
95th percentile per-packet one-way delay: 195.504 ms
Loss rate: 2.52%
Run 8: Report of PCC-Allegro — Data Link
Run 9: Statistics of PCC-Allegro

Start at: 2018-08-10 20:19:02
End at: 2018-08-10 20:19:32
Local clock offset: -0.274 ms
Remote clock offset: -0.294 ms

# Below is generated by plot.py at 2018-08-10 23:11:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 654.04 Mbit/s
  95th percentile per-packet one-way delay: 239.074 ms
  Loss rate: 5.71%
-- Flow 1:
  Average throughput: 457.50 Mbit/s
  95th percentile per-packet one-way delay: 258.890 ms
  Loss rate: 5.44%
-- Flow 2:
  Average throughput: 240.56 Mbit/s
  95th percentile per-packet one-way delay: 195.155 ms
  Loss rate: 5.55%
-- Flow 3:
  Average throughput: 115.11 Mbit/s
  95th percentile per-packet one-way delay: 195.713 ms
  Loss rate: 9.51%
Run 9: Report of PCC-Allegro — Data Link
Run 10: Statistics of PCC-Allegro

Start at: 2018-08-10 20:46:13  
End at: 2018-08-10 20:46:43  
Local clock offset: 2.812 ms  
Remote clock offset: -0.291 ms

# Below is generated by plot.py at 2018-08-10 23:11:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 637.52 Mbit/s  
95th percentile per-packet one-way delay: 236.378 ms  
Loss rate: 8.11%  
-- Flow 1:  
Average throughput: 444.25 Mbit/s  
95th percentile per-packet one-way delay: 243.884 ms  
Loss rate: 9.05%  
-- Flow 2:  
Average throughput: 235.08 Mbit/s  
95th percentile per-packet one-way delay: 199.211 ms  
Loss rate: 5.40%  
-- Flow 3:  
Average throughput: 116.13 Mbit/s  
95th percentile per-packet one-way delay: 199.945 ms  
Loss rate: 7.79%
Run 10: Report of PCC-Allegro — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 Ingress (mean 484.88 Mbps)
- Flow 1 Egress (mean 444.25 Mbps)
- Flow 2 Ingress (mean 245.70 Mbps)
- Flow 2 Egress (mean 235.08 Mbps)
- Flow 3 Ingress (mean 123.09 Mbps)
- Flow 3 Egress (mean 116.13 Mbps)

Graph 2: Per-packet one way delay (ms)
- Flow 1 (95th percentile 243.88 ms)
- Flow 2 (95th percentile 199.21 ms)
- Flow 3 (95th percentile 199.94 ms)
Run 1: Statistics of PCC-Expr

Start at: 2018-08-10 16:54:00
End at: 2018-08-10 16:54:30
Local clock offset: -0.166 ms
Remote clock offset: -0.597 ms

# Below is generated by plot.py at 2018-08-10 23:11:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 243.97 Mbit/s
  95th percentile per-packet one-way delay: 121.001 ms
  Loss rate: 1.17%
-- Flow 1:
  Average throughput: 183.01 Mbit/s
  95th percentile per-packet one-way delay: 122.102 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 69.89 Mbit/s
  95th percentile per-packet one-way delay: 117.535 ms
  Loss rate: 1.49%
-- Flow 3:
  Average throughput: 45.10 Mbit/s
  95th percentile per-packet one-way delay: 118.150 ms
  Loss rate: 2.73%
Run 1: Report of PCC-Expr — Data Link

![Graph showing throughput and packet delay over time for flow 1, 2, and 3.]

- Flow 1 ingress (mean 183.41 Mbit/s)
- Flow 1 egress (mean 183.01 Mbit/s)
- Flow 2 ingress (mean 70.17 Mbit/s)
- Flow 2 egress (mean 69.89 Mbit/s)
- Flow 3 ingress (mean 45.33 Mbit/s)
- Flow 3 egress (mean 45.10 Mbit/s)

![Graph showing per-packet round-trip delay for flow 1, 2, and 3.]

- Flow 1 (95th percentile 122.10 ms)
- Flow 2 (95th percentile 117.53 ms)
- Flow 3 (95th percentile 110.15 ms)
Run 2: Statistics of PCC-Expr

Start at: 2018-08-10 17:20:08
End at: 2018-08-10 17:20:38
Local clock offset: -0.099 ms
Remote clock offset: -0.275 ms

# Below is generated by plot.py at 2018-08-10 23:11:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.31 Mbit/s
95th percentile per-packet one-way delay: 118.204 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 169.60 Mbit/s
95th percentile per-packet one-way delay: 121.183 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 106.34 Mbit/s
95th percentile per-packet one-way delay: 114.068 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 86.81 Mbit/s
95th percentile per-packet one-way delay: 118.609 ms
Loss rate: 3.11%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2018-08-10 17:46:26
End at: 2018-08-10 17:46:56
Local clock offset: -0.157 ms
Remote clock offset: 0.109 ms

# Below is generated by plot.py at 2018-08-10 23:14:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.38 Mbit/s
95th percentile per-packet one-way delay: 170.362 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 167.37 Mbit/s
95th percentile per-packet one-way delay: 115.649 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 98.42 Mbit/s
95th percentile per-packet one-way delay: 112.696 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 220.60 Mbit/s
95th percentile per-packet one-way delay: 216.027 ms
Loss rate: 3.73%
Run 3: Report of PCC-Expr — Data Link

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

- **Flow 1 ingress (mean 167.34 Mbps)**
- **Flow 1 egress (mean 167.37 Mbps)**
- **Flow 2 ingress (mean 98.63 Mbps)**
- **Flow 2 egress (mean 98.42 Mbps)**
- **Flow 3 ingress (mean 223.91 Mbps)**
- **Flow 3 egress (mean 220.60 Mbps)**

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

- **Flow 1 (95th percentile 115.65 ms)**
- **Flow 2 (95th percentile 112.70 ms)**
- **Flow 3 (95th percentile 216.03 ms)**
Run 4: Statistics of PCC-Expr

Start at: 2018-08-10 18:12:24
End at: 2018-08-10 18:12:54
Local clock offset: 0.442 ms
Remote clock offset: -1.642 ms

# Below is generated by plot.py at 2018-08-10 23:14:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.18 Mbit/s
95th percentile per-packet one-way delay: 112.839 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 133.20 Mbit/s
95th percentile per-packet one-way delay: 112.944 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 116.04 Mbit/s
95th percentile per-packet one-way delay: 111.804 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 154.34 Mbit/s
95th percentile per-packet one-way delay: 114.260 ms
Loss rate: 2.76%
Run 4: Report of PCC-Expr — Data Link

---

[Graph showing throughput and packet one-way delay over time for different flows, with legends indicating mean Throughput and 95th percentile delay.]
Run 5: Statistics of PCC-Expr

Start at: 2018-08-10 18:39:20
End at: 2018-08-10 18:39:50
Local clock offset: 0.411 ms
Remote clock offset: -4.725 ms

# Below is generated by plot.py at 2018-08-10 23:21:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 451.50 Mbit/s
  95th percentile per-packet one-way delay: 236.213 ms
  Loss rate: 2.41%
-- Flow 1:
  Average throughput: 285.94 Mbit/s
  95th percentile per-packet one-way delay: 246.003 ms
  Loss rate: 2.81%
-- Flow 2:
  Average throughput: 173.57 Mbit/s
  95th percentile per-packet one-way delay: 113.762 ms
  Loss rate: 1.28%
-- Flow 3:
  Average throughput: 155.73 Mbit/s
  95th percentile per-packet one-way delay: 122.593 ms
  Loss rate: 2.72%
Run 5: Report of PCC-Expr — Data Link

[Graph showing throughput and packet delay over time for different flows with indicated means and percentiles]
Run 6: Statistics of PCC-Expr

Start at: 2018-08-10 19:06:39
End at: 2018-08-10 19:07:09
Local clock offset: -0.18 ms
Remote clock offset: -4.696 ms

# Below is generated by plot.py at 2018-08-10 23:21:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.91 Mbit/s
95th percentile per-packet one-way delay: 156.083 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 219.67 Mbit/s
95th percentile per-packet one-way delay: 150.470 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 112.295 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 149.92 Mbit/s
95th percentile per-packet one-way delay: 255.396 ms
Loss rate: 2.72%
Run 6: Report of PCC-Expr — Data Link

Graph 1: Throughput (Mbps)

Graph 2: Packet delay (ms)

Legend:
- Flow 1 ingress (mean 219.42 Mbps)
- Flow 1 egress (mean 219.67 Mbps)
- Flow 2 ingress (mean 82.95 Mbps)
- Flow 2 egress (mean 82.28 Mbps)
- Flow 3 ingress (mean 156.62 Mbps)
- Flow 3 egress (mean 149.92 Mbps)
- Flow 1 (95th percentile 150.47 ms)
- Flow 2 (95th percentile 112.30 ms)
- Flow 3 (95th percentile 255.40 ms)
Run 7: Statistics of PCC-Expr

Start at: 2018-08-10 19:34:48
End at: 2018-08-10 19:35:18
Local clock offset: -2.956 ms
Remote clock offset: -1.842 ms

# Below is generated by plot.py at 2018-08-10 23:24:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 416.54 Mbit/s
95th percentile per-packet one-way delay: 224.228 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 275.35 Mbit/s
95th percentile per-packet one-way delay: 227.176 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 169.34 Mbit/s
95th percentile per-packet one-way delay: 225.842 ms
Loss rate: 2.39%
-- Flow 3:
Average throughput: 89.33 Mbit/s
95th percentile per-packet one-way delay: 129.431 ms
Loss rate: 2.83%
Run 7: Report of PCC-Expr — Data Link
Run 8: Statistics of PCC-Expr

Start at: 2018-08-10 20:02:26
End at: 2018-08-10 20:02:56
Local clock offset: -0.068 ms
Remote clock offset: -0.452 ms

# Below is generated by plot.py at 2018-08-10 23:24:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.52 Mbit/s
95th percentile per-packet one-way delay: 203.351 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 227.62 Mbit/s
95th percentile per-packet one-way delay: 212.075 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 179.53 Mbit/s
95th percentile per-packet one-way delay: 199.659 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 46.17 Mbit/s
95th percentile per-packet one-way delay: 111.220 ms
Loss rate: 2.81%
Run 8: Report of PCC-Expr — Data Link

---

**Throughput Over Time:**
- **Flow 1** (ingress: 228.10 Mb/s, egress: 227.62 Mb/s)
- **Flow 2** (ingress: 180.99 Mb/s, egress: 179.53 Mb/s)
- **Flow 3** (ingress: 46.38 Mb/s, egress: 46.17 Mb/s)

**Packet Delay Over Time:**
- **Flow 1** (95th percentile: 212.07 ms)
- **Flow 2** (95th percentile: 199.66 ms)
- **Flow 3** (95th percentile: 111.22 ms)
Run 9: Statistics of PCC-Expr

Start at: 2018-08-10 20:29:35
End at: 2018-08-10 20:30:05
Local clock offset: -0.028 ms
Remote clock offset: -0.391 ms

# Below is generated by plot.py at 2018-08-10 23:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.06 Mbit/s
95th percentile per-packet one-way delay: 233.687 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 229.28 Mbit/s
95th percentile per-packet one-way delay: 251.820 ms
Loss rate: 2.34%
-- Flow 2:
Average throughput: 167.06 Mbit/s
95th percentile per-packet one-way delay: 125.757 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 83.45 Mbit/s
95th percentile per-packet one-way delay: 112.262 ms
Loss rate: 2.70%
Run 9: Report of PCC-Expr — Data Link

![Graph showing data link performance metrics over time, including throughput and per-packet one-way delay.]
Run 10: Statistics of PCC-Expr

Start at: 2018-08-10 20:56:34
End at: 2018-08-10 20:57:04
Local clock offset: 2.739 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2018-08-10 23:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.52 Mbit/s
95th percentile per-packet one-way delay: 130.132 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 190.91 Mbit/s
95th percentile per-packet one-way delay: 127.089 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 105.69 Mbit/s
95th percentile per-packet one-way delay: 114.205 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 155.71 Mbit/s
95th percentile per-packet one-way delay: 254.333 ms
Loss rate: 3.94%
Run 10: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-10 16:52:43
End at: 2018-08-10 16:53:13
Local clock offset: -0.126 ms
Remote clock offset: 0.12 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.44 Mbit/s
95th percentile per-packet one-way delay: 110.678 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 113.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.61 Mbit/s
95th percentile per-packet one-way delay: 110.737 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 43.24 Mbit/s
95th percentile per-packet one-way delay: 110.172 ms
Loss rate: 2.57%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2018-08-10 17:18:49
End at: 2018-08-10 17:19:19
Local clock offset: -0.128 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.77 Mbit/s
95th percentile per-packet one-way delay: 110.642 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 53.47 Mbit/s
95th percentile per-packet one-way delay: 110.506 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 44.06 Mbit/s
95th percentile per-packet one-way delay: 110.734 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 34.46 Mbit/s
95th percentile per-packet one-way delay: 109.953 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2018-08-10 17:45:08
End at: 2018-08-10 17:45:38
Local clock offset: 0.077 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.99 Mbit/s
95th percentile per-packet one-way delay: 111.139 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 41.51 Mbit/s
95th percentile per-packet one-way delay: 110.705 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 111.332 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 34.05 Mbit/s
95th percentile per-packet one-way delay: 110.831 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2018-08-10 18:11:04
End at: 2018-08-10 18:11:35
Local clock offset: -0.007 ms
Remote clock offset: -1.23 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 87.28 Mbit/s
  95th percentile per-packet one-way delay: 110.927 ms
  Loss rate: 0.85%
-- Flow 1:
  Average throughput: 40.78 Mbit/s
  95th percentile per-packet one-way delay: 110.834 ms
  Loss rate: 0.19%
-- Flow 2:
  Average throughput: 53.17 Mbit/s
  95th percentile per-packet one-way delay: 110.986 ms
  Loss rate: 1.86%
-- Flow 3:
  Average throughput: 34.85 Mbit/s
  95th percentile per-packet one-way delay: 110.239 ms
  Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 40.55 Mbps)
- Flow 1 egress (mean 40.78 Mbps)
- Flow 2 ingress (mean 53.56 Mbps)
- Flow 2 egress (mean 53.17 Mbps)
- Flow 3 ingress (mean 34.17 Mbps)
- Flow 3 egress (mean 34.85 Mbps)

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

- Flow 1 (95th percentile 110.83 ms)
- Flow 2 (95th percentile 110.99 ms)
- Flow 3 (95th percentile 110.24 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2018-08-10 18:38:02
End at: 2018-08-10 18:38:32
Local clock offset: -0.178 ms
Remote clock offset: -4.78 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.64 Mbit/s
95th percentile per-packet one-way delay: 110.991 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 50.36 Mbit/s
95th percentile per-packet one-way delay: 110.711 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 111.092 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 110.826 ms
Loss rate: 1.01%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-08-10 19:05:20
End at: 2018-08-10 19:05:50
Local clock offset: -0.026 ms
Remote clock offset: -4.595 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.81 Mbit/s
  95th percentile per-packet one-way delay: 111.155 ms
  Loss rate: 1.38%
-- Flow 1:
  Average throughput: 53.80 Mbit/s
  95th percentile per-packet one-way delay: 111.108 ms
  Loss rate: 1.17%
-- Flow 2:
  Average throughput: 46.39 Mbit/s
  95th percentile per-packet one-way delay: 111.062 ms
  Loss rate: 2.05%
-- Flow 3:
  Average throughput: 34.63 Mbit/s
  95th percentile per-packet one-way delay: 111.411 ms
  Loss rate: 0.52%
Run 6: Report of QUIC Cubic — Data Link
Run 7: Statistics of QUIC Cubic

Start at: 2018-08-10 19:33:27
End at: 2018-08-10 19:33:57
Local clock offset: -0.172 ms
Remote clock offset: -2.16 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 104.90 Mbit/s
  95th percentile per-packet one-way delay: 111.522 ms
  Loss rate: 1.82%
-- Flow 1:
  Average throughput: 56.93 Mbit/s
  95th percentile per-packet one-way delay: 111.568 ms
  Loss rate: 1.01%
-- Flow 2:
  Average throughput: 47.51 Mbit/s
  95th percentile per-packet one-way delay: 110.861 ms
  Loss rate: 1.93%
-- Flow 3:
  Average throughput: 50.66 Mbit/s
  95th percentile per-packet one-way delay: 111.045 ms
  Loss rate: 4.36%
Run 7: Report of QUIC Cubic — Data Link

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

Legend:
- Flow 1 ingress (mean 57.09 Mbit/s)
- Flow 1 egress (mean 56.93 Mbit/s)
- Flow 2 ingress (mean 47.91 Mbit/s)
- Flow 2 egress (mean 47.51 Mbit/s)
- Flow 3 ingress (mean 51.80 Mbit/s)
- Flow 3 egress (mean 50.66 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 111.57 ms)
- Flow 2 (95th percentile 110.86 ms)
- Flow 3 (95th percentile 111.05 ms)
Run 8: Statistics of QUIC Cubic

Start at: 2018-08-10 20:01:07
End at: 2018-08-10 20:01:37
Local clock offset: -0.127 ms
Remote clock offset: -0.727 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.91 Mbit/s
95th percentile per-packet one-way delay: 111.248 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 52.89 Mbit/s
95th percentile per-packet one-way delay: 111.099 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 42.18 Mbit/s
95th percentile per-packet one-way delay: 111.237 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 33.91 Mbit/s
95th percentile per-packet one-way delay: 111.358 ms
Loss rate: 1.10%
Run 8: Report of QUIC Cubic — Data Link

Throughput (Mbps)

Time (s)

- Flow 1 ingress (mean 53.13 Mbit/s)
- Flow 1 egress (mean 52.89 Mbit/s)
- Flow 2 ingress (mean 42.56 Mbit/s)
- Flow 2 egress (mean 42.18 Mbit/s)
- Flow 3 ingress (mean 33.53 Mbit/s)
- Flow 3 egress (mean 33.91 Mbit/s)

Packet delay (ms)

Time (s)

- Flow 1 (95th percentile 111.10 ms)
- Flow 2 (95th percentile 111.24 ms)
- Flow 3 (95th percentile 111.36 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-08-10 20:28:15
End at: 2018-08-10 20:28:45
Local clock offset: -0.159 ms
Remote clock offset: -0.722 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.88 Mbit/s
95th percentile per-packet one-way delay: 111.598 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 50.60 Mbit/s
95th percentile per-packet one-way delay: 110.376 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 61.58 Mbit/s
95th percentile per-packet one-way delay: 111.677 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 19.91 Mbit/s
95th percentile per-packet one-way delay: 110.524 ms
Loss rate: 0.00%
Run 9: Report of QUIC Cubic — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 50.80 Mbit/s)
- Flow 1 egress (mean 50.60 Mbit/s)
- Flow 2 ingress (mean 61.12 Mbit/s)
- Flow 2 egress (mean 61.58 Mbit/s)
- Flow 3 ingress (mean 19.50 Mbit/s)
- Flow 3 egress (mean 19.91 Mbit/s)

![Per-packet one-way delay Graph]

- Flow 1 (95th percentile 110.38 ms)
- Flow 2 (95th percentile 111.68 ms)
- Flow 3 (95th percentile 110.52 ms)
Run 10: Statistics of QUIC Cubic

Start at: 2018-08-10 20:55:14
End at: 2018-08-10 20:55:44
Local clock offset: -3.057 ms
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.86 Mbit/s
95th percentile per-packet one-way delay: 108.143 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 60.90 Mbit/s
95th percentile per-packet one-way delay: 108.188 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 42.05 Mbit/s
95th percentile per-packet one-way delay: 107.662 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 40.19 Mbit/s
95th percentile per-packet one-way delay: 107.643 ms
Loss rate: 3.80%
Run 10: Report of QUIC Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 60.96 Mbps)
  - Flow 1 egress (mean 60.90 Mbps)
  - Flow 2 ingress (mean 42.44 Mbps)
  - Flow 2 egress (mean 42.05 Mbps)
  - Flow 3 ingress (mean 40.85 Mbps)
  - Flow 3 egress (mean 40.19 Mbps)

- **Round-trip time (ms):**
  - Flow 1 (95th percentile 108.19 ms)
  - Flow 2 (95th percentile 107.66 ms)
  - Flow 3 (95th percentile 107.64 ms)
Run 1: Statistics of SCReAM

Start at: 2018-08-10 16:51:30
End at: 2018-08-10 16:52:01
Local clock offset: -0.009 ms
Remote clock offset: -0.25 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.773 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.672 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.864 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.622 ms
Loss rate: 2.21%
Run 1: Report of SCReAM — Data Link

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

- **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)

- **Delay (ms):**
  - Flow 1 (95th percentile 111.67 ms)
  - Flow 2 (95th percentile 111.86 ms)
  - Flow 3 (95th percentile 111.62 ms)
Run 2: Statistics of SCReAM

Start at: 2018-08-10 17:17:36
End at: 2018-08-10 17:18:06
Local clock offset: 0.261 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.33 Mbit/s
  95th percentile per-packet one-way delay: 111.980 ms
  Loss rate: 1.01%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.800 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.12 Mbit/s
  95th percentile per-packet one-way delay: 112.160 ms
  Loss rate: 1.16%
-- Flow 3:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 111.926 ms
  Loss rate: 1.97%
Run 2: Report of SCReAM — Data Link

**Graph 1:**
- **Y-axis:** Throughput (Mbps)
- **X-axis:** Time (s)
- Graph showing throughput over time for different flows.

**Graph 2:**
- **Y-axis:** Per-packet one-way delay (ms)
- **X-axis:** Time (s)
- Graph showing per-packet delay over time for different flows.

Legend:
- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.12 Mbps)
- Flow 2 egress (mean 0.12 Mbps)
- Flow 3 ingress (mean 0.12 Mbps)
- Flow 3 egress (mean 0.13 Mbps)

Run 3: Statistics of SCReAM

Start at: 2018-08-10 17:43:56
End at: 2018-08-10 17:44:26
Local clock offset: 0.503 ms
Remote clock offset: -0.268 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 113.085 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.434 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.585 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.326 ms
Loss rate: 2.21%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-08-10 18:09:52
End at: 2018-08-10 18:10:22
Local clock offset: -0.13 ms
Remote clock offset: -0.974 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.461 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.244 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.511 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.072 ms
Loss rate: 2.21%
Run 4: Report of SCReAM — Data Link

Throughput (Mb/s)

Time (s)

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

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 111.24 ms)
Flow 2 (95th percentile 111.51 ms)
Flow 3 (95th percentile 111.07 ms)
Run 5: Statistics of SCReAM

Start at: 2018-08-10 18:36:49
End at: 2018-08-10 18:37:19
Local clock offset: -0.135 ms
Remote clock offset: -5.835 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.583 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.601 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.573 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.415 ms
Loss rate: 2.22%
Run 5: Report of SCReAM — Data Link
Run 6: Statistics of SCReAM

Start at: 2018-08-10 19:04:07
End at: 2018-08-10 19:04:37
Local clock offset: -0.204 ms
Remote clock offset: -4.461 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 111.351 ms
  Loss rate: 1.17%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.393 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.205 ms
  Loss rate: 1.24%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.049 ms
  Loss rate: 2.21%
Run 6: Report of SCReAM — Data Link

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

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

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

- Flow 1 (95th percentile 111.39 ms)
- Flow 2 (95th percentile 111.20 ms)
- Flow 3 (95th percentile 111.05 ms)
Run 7: Statistics of SCReAM

Start at: 2018-08-10 19:32:14
End at: 2018-08-10 19:32:44
Local clock offset: -0.116 ms
Remote clock offset: -2.131 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 111.557 ms
  Loss rate: 1.05%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.442 ms
  Loss rate: 0.76%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.327 ms
  Loss rate: 1.24%
-- Flow 3:
  Average throughput: 0.12 Mbit/s
  95th percentile per-packet one-way delay: 111.699 ms
  Loss rate: 1.93%
Run 7: Report of SCReAM — Data Link
Run 8: Statistics of SCReAM

Start at: 2018-08-10 19:59:54
End at: 2018-08-10 20:00:24
Local clock offset: -0.046 ms
Remote clock offset: -0.826 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 111.744 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 110.685 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.575 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.865 ms
Loss rate: 2.22%
Run 8: Report of SCReAM — Data Link

**Throughput (Mbps)**

- **Flow 1 ingress (mean 0.11 Mbps)**
- **Flow 1 egress (mean 0.11 Mbps)**
- **Flow 2 ingress (mean 0.22 Mbps)**
- **Flow 2 egress (mean 0.22 Mbps)**
- **Flow 3 ingress (mean 0.22 Mbps)**
- **Flow 3 egress (mean 0.22 Mbps)**

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

- **Flow 1 (95th percentile 110.69 ms)**
- **Flow 2 (95th percentile 110.58 ms)**
- **Flow 3 (95th percentile 111.86 ms)**
Run 9: Statistics of SCReAM

Start at: 2018-08-10 20:27:02
End at: 2018-08-10 20:27:32
Local clock offset: 0.017 ms
Remote clock offset: -0.765 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.842 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.888 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.976 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.285 ms
Loss rate: 2.21%
Run 10: Statistics of SCReAM

Start at: 2018-08-10 20:54:01
End at: 2018-08-10 20:54:31
Local clock offset: -0.051 ms
Remote clock offset: -0.311 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 111.370 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 110.596 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.517 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.886 ms
Loss rate: 2.21%
Run 1: Statistics of Sprout

Start at: 2018-08-10 16:50:18
End at: 2018-08-10 16:50:48
Local clock offset: 1.308 ms
Remote clock offset: -0.24 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.45 Mbit/s
  95th percentile per-packet one-way delay: 113.298 ms
  Loss rate: 0.72%
-- Flow 1:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 113.192 ms
  Loss rate: 0.84%
-- Flow 2:
  Average throughput: 0.29 Mbit/s
  95th percentile per-packet one-way delay: 113.330 ms
  Loss rate: 0.27%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 113.272 ms
  Loss rate: 1.64%
Run 1: Report of Sprout — Data Link

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

Start at: 2018-08-10 17:16:23
End at: 2018-08-10 17:16:53
Local clock offset: -0.05 ms
Remote clock offset: -0.267 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per.packet one-way delay: 111.888 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per.packet one-way delay: 111.016 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per.packet one-way delay: 112.288 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per.packet one-way delay: 111.101 ms
Loss rate: 0.92%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2018-08-10 17:42:43
End at: 2018-08-10 17:43:13
Local clock offset: 0.61 ms
Remote clock offset: -0.231 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 113.572 ms
  Loss rate: 0.96%
-- Flow 1:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 113.606 ms
  Loss rate: 0.78%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.584 ms
  Loss rate: 0.90%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 112.536 ms
  Loss rate: 1.60%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2018-08-10 18:08:39
End at: 2018-08-10 18:09:09
Local clock offset: -0.022 ms
Remote clock offset: -1.008 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 111.781 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 111.741 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 111.882 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 111.779 ms
Loss rate: 2.88%
Run 4: Report of Sprout — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.17 Mbit/s) — Flow 1 egress (mean 0.17 Mbit/s)
Flow 2 ingress (mean 0.24 Mbit/s) — Flow 2 egress (mean 0.24 Mbit/s)
Flow 3 ingress (mean 0.41 Mbit/s) — Flow 3 egress (mean 0.41 Mbit/s)

Packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 111.74 ms) — Flow 2 (95th percentile 111.88 ms) — Flow 3 (95th percentile 111.78 ms)
Run 5: Statistics of Sprout

Start at: 2018-08-10 18:35:36
End at: 2018-08-10 18:36:06
Local clock offset: 0.107 ms
Remote clock offset: -6.462 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 112.028 ms
  Loss rate: 0.90%
  -- Flow 1:
    Average throughput: 0.17 Mbit/s
    95th percentile per-packet one-way delay: 111.918 ms
    Loss rate: 0.92%
  -- Flow 2:
    Average throughput: 0.27 Mbit/s
    95th percentile per-packet one-way delay: 112.068 ms
    Loss rate: 0.39%
  -- Flow 3:
    Average throughput: 0.24 Mbit/s
    95th percentile per-packet one-way delay: 112.049 ms
    Loss rate: 1.99%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

Start at: 2018-08-10 19:02:54
End at: 2018-08-10 19:03:24
Local clock offset: -0.131 ms
Remote clock offset: -4.666 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 111.394 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 110.546 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.462 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 111.261 ms
Loss rate: 0.93%
Run 6: Report of Sprout — Data Link

![Graph showing throughput and packet delay over time for different flows.]
Run 7: Statistics of Sprout

Start at: 2018-08-10 19:31:01
End at: 2018-08-10 19:31:31
Local clock offset: 2.824 ms
Remote clock offset: -2.371 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 114.925 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 114.989 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 114.535 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 114.545 ms
Loss rate: 1.32%
Run 7: Report of Sprout — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.17 Mbit/s)
Flow 1 egress (mean 0.17 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)
Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.36 Mbit/s)
Flow 3 egress (mean 0.37 Mbit/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 114.99 ms)
Flow 2 (95th percentile 114.53 ms)
Flow 3 (95th percentile 114.55 ms)
Run 8: Statistics of Sprout

Start at: 2018-08-10 19:58:41  
End at: 2018-08-10 19:59:11  
Local clock offset: -0.198 ms  
Remote clock offset: -0.895 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 111.117 ms  
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 111.147 ms  
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 111.081 ms  
  Loss rate: 1.24%
-- Flow 3:
  Average throughput: 0.30 Mbit/s
  95th percentile per-packet one-way delay: 111.085 ms  
  Loss rate: 1.22%
Run 9: Statistics of Sprout

Start at: 2018-08-10 20:25:49
End at: 2018-08-10 20:26:19
Local clock offset: -0.141 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 111.031 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 110.181 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 111.114 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 110.302 ms
Loss rate: 1.33%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

Start at: 2018-08-10 20:52:48
End at: 2018-08-10 20:53:18
Local clock offset: -2.981 ms
Remote clock offset: -0.337 ms

# Below is generated by plot.py at 2018-08-10 23:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 108.766 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 108.757 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 108.801 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 108.731 ms
Loss rate: 0.82%
Run 10: Report of Sprout — Data Link

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**Graph 1:**
- **Y-axis:** Throughput (Mbps)
- **X-axis:** Time (s)
- Lines indicate:
  - Flow 1 ingress (mean 0.20 Mbps)
  - Flow 1 egress (mean 0.20 Mbps)
  - Flow 2 ingress (mean 0.21 Mbps)
  - Flow 2 egress (mean 0.21 Mbps)
  - Flow 3 ingress (mean 0.30 Mbps)
  - Flow 3 egress (mean 0.30 Mbps)

**Graph 2:**
- **Y-axis:** Per-packet one-way delay (ms)
- **X-axis:** Time (s)
- Symbols indicate:
  - Flow 1 (95th percentile 108.76 ms)
  - Flow 2 (95th percentile 108.80 ms)
  - Flow 3 (95th percentile 108.73 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2018-08-10 16:34:18
End at: 2018-08-10 16:34:48
Local clock offset: -1.407 ms
Remote clock offset: -0.281 ms

# Below is generated by plot.py at 2018-08-10 23:28:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 249.06 Mbit/s
  95th percentile per-packet one-way delay: 112.407 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 154.38 Mbit/s
  95th percentile per-packet one-way delay: 111.706 ms
  Loss rate: 0.22%
-- Flow 2:
  Average throughput: 125.72 Mbit/s
  95th percentile per-packet one-way delay: 113.468 ms
  Loss rate: 0.58%
-- Flow 3:
  Average throughput: 34.63 Mbit/s
  95th percentile per-packet one-way delay: 116.787 ms
  Loss rate: 6.70%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2018-08-10 17:00:31
End at: 2018-08-10 17:01:01
Local clock offset: -1.468 ms
Remote clock offset: 0.105 ms

# Below is generated by plot.py at 2018-08-10 23:28:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 245.37 Mbit/s
  95th percentile per-packet one-way delay: 110.555 ms
  Loss rate: 0.90%
-- Flow 1:
  Average throughput: 150.12 Mbit/s
  95th percentile per-packet one-way delay: 110.005 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 105.39 Mbit/s
  95th percentile per-packet one-way delay: 110.826 ms
  Loss rate: 1.25%
-- Flow 3:
  Average throughput: 77.64 Mbit/s
  95th percentile per-packet one-way delay: 112.678 ms
  Loss rate: 2.36%
Run 2: Report of TaoVA-100x — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 149.92 Mbit/s)
Flow 1 egress (mean 150.12 Mbit/s)
Flow 2 ingress (mean 105.56 Mbit/s)
Flow 2 egress (mean 105.39 Mbit/s)
Flow 3 ingress (mean 78.24 Mbit/s)
Flow 3 egress (mean 77.64 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 110.00 ms)
Flow 2 (95th percentile 110.83 ms)
Flow 3 (95th percentile 112.68 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2018-08-10 17:26:32
End at: 2018-08-10 17:27:02
Local clock offset: -1.451 ms
Remote clock offset: -0.264 ms

# Below is generated by plot.py at 2018-08-10 23:30:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 288.46 Mbit/s
  95th percentile per-packet one-way delay: 115.602 ms
  Loss rate: 0.97%
-- Flow 1:
  Average throughput: 164.94 Mbit/s
  95th percentile per-packet one-way delay: 115.878 ms
  Loss rate: 0.66%
-- Flow 2:
  Average throughput: 123.80 Mbit/s
  95th percentile per-packet one-way delay: 114.852 ms
  Loss rate: 1.05%
-- Flow 3:
  Average throughput: 126.39 Mbit/s
  95th percentile per-packet one-way delay: 117.377 ms
  Loss rate: 2.03%
Run 3: Report of TaoVA-100x — Data Link

![Graph of network throughput and packet delay](image)

- Flow 1 ingress (mean 165.27 Mbit/s)
- Flow 1 egress (mean 164.94 Mbit/s)
- Flow 2 ingress (mean 123.72 Mbit/s)
- Flow 2 egress (mean 123.85 Mbit/s)
- Flow 3 ingress (mean 126.13 Mbit/s)
- Flow 3 egress (mean 126.39 Mbit/s)
Run 4: Statistics of TaoVA-100x

Start at: 2018-08-10 17:52:51
End at: 2018-08-10 17:53:21
Local clock offset: ~0.042 ms
Remote clock offset: ~0.121 ms

# Below is generated by plot.py at 2018-08-10 23:30:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 243.47 Mbit/s
  95th percentile per-packet one-way delay: 113.558 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 133.18 Mbit/s
  95th percentile per-packet one-way delay: 112.895 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 119.08 Mbit/s
  95th percentile per-packet one-way delay: 113.817 ms
  Loss rate: 1.79%
-- Flow 3:
  Average throughput: 95.68 Mbit/s
  95th percentile per-packet one-way delay: 115.332 ms
  Loss rate: 2.78%
Run 4: Report of TaoVA-100x — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 133.22 Mb/s) — Flow 1 egress (mean 133.18 Mb/s)
Flow 2 ingress (mean 119.91 Mb/s) — Flow 2 egress (mean 119.08 Mb/s)
Flow 3 ingress (mean 96.18 Mb/s) — Flow 3 egress (mean 95.68 Mb/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 112.89 ms) — Flow 2 (95th percentile 113.82 ms) — Flow 3 (95th percentile 115.33 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-08-10 18:19:08
End at: 2018-08-10 18:19:38
Local clock offset: -0.704 ms
Remote clock offset: -3.192 ms

# Below is generated by plot.py at 2018-08-10 23:32:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 271.37 Mbit/s
  95th percentile per-packet one-way delay: 111.522 ms
  Loss rate: 1.12%
-- Flow 1:
  Average throughput: 197.95 Mbit/s
  95th percentile per-packet one-way delay: 111.029 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 31.34 Mbit/s
  95th percentile per-packet one-way delay: 110.848 ms
  Loss rate: 3.49%
-- Flow 3:
  Average throughput: 160.98 Mbit/s
  95th percentile per-packet one-way delay: 113.212 ms
  Loss rate: 2.18%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

Start at: 2018-08-10 18:46:26
End at: 2018-08-10 18:46:56
Local clock offset: -0.069 ms
Remote clock offset: -3.519 ms

# Below is generated by plot.py at 2018-08-10 23:34:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.53 Mbit/s
95th percentile per-packet one-way delay: 112.280 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 175.61 Mbit/s
95th percentile per-packet one-way delay: 111.731 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 128.93 Mbit/s
95th percentile per-packet one-way delay: 112.114 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 166.68 Mbit/s
95th percentile per-packet one-way delay: 115.393 ms
Loss rate: 2.06%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Start at: 2018-08-10 19:13:39
End at: 2018-08-10 19:14:09
Local clock offset: 0.018 ms
Remote clock offset: -3.348 ms

# Below is generated by plot.py at 2018-08-10 23:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.09 Mbit/s
95th percentile per-packet one-way delay: 112.575 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 200.16 Mbit/s
95th percentile per-packet one-way delay: 112.647 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 180.36 Mbit/s
95th percentile per-packet one-way delay: 112.295 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 110.90 Mbit/s
95th percentile per-packet one-way delay: 113.035 ms
Loss rate: 3.18%
Run 7: Report of TaoVA-100x — Data Link

![Graph of data link performance](image)

**Throughput (Mbps)**

- Flow 1 ingress (mean 200.00 Mbps)
- Flow 1 egress (mean 200.16 Mbps)
- Flow 2 ingress (mean 180.14 Mbps)
- Flow 2 egress (mean 180.36 Mbps)
- Flow 3 ingress (mean 112.68 Mbps)
- Flow 3 egress (mean 110.90 Mbps)

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

- Flow 1 (95th percentile 112.65 ms)
- Flow 2 (95th percentile 112.30 ms)
- Flow 3 (95th percentile 113.03 ms)
Run 8: Statistics of TaoVA-100x

Start at: 2018-08-10 19:42:00
End at: 2018-08-10 19:42:30
Local clock offset: 0.028 ms
Remote clock offset: -2.864 ms

# Below is generated by plot.py at 2018-08-10 23:36:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.11 Mbit/s
95th percentile per-packet one-way delay: 112.049 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 201.61 Mbit/s
95th percentile per-packet one-way delay: 112.056 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 41.83 Mbit/s
95th percentile per-packet one-way delay: 111.812 ms
Loss rate: 3.93%
-- Flow 3:
Average throughput: 197.83 Mbit/s
95th percentile per-packet one-way delay: 112.085 ms
Loss rate: 1.38%
Run 8: Report of TaoVA-100x — Data Link
Run 9: Statistics of TaoVA-100x

Start at: 2018-08-10 20:09:17
End at: 2018-08-10 20:09:47
Local clock offset: -2.895 ms
Remote clock offset: -1.117 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.33 Mbit/s
95th percentile per-packet one-way delay: 110.787 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 181.10 Mbit/s
95th percentile per-packet one-way delay: 109.713 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 189.20 Mbit/s
95th percentile per-packet one-way delay: 111.698 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 182.51 Mbit/s
95th percentile per-packet one-way delay: 112.841 ms
Loss rate: 2.95%
Run 9: Report of TaoVA-100x — Data Link

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

**Throughput** (Mbps):
- Flow 1 ingress (mean 181.46 Mbps)
- Flow 1 egress (mean 181.10 Mbps)
- Flow 2 ingress (mean 188.67 Mbps)
- Flow 2 egress (mean 189.20 Mbps)
- Flow 3 ingress (mean 183.84 Mbps)
- Flow 3 egress (mean 182.51 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 109.71 ms)
- Flow 2 (95th percentile 111.70 ms)
- Flow 3 (95th percentile 112.84 ms)
Run 10: Statistics of TaoVA-100x

Start at: 2018-08-10 20:36:27
End at: 2018-08-10 20:36:57
Local clock offset: -0.2 ms
Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 362.70 Mbit/s
  95th percentile per-packet one-way delay: 113.369 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 192.25 Mbit/s
  95th percentile per-packet one-way delay: 111.895 ms
  Loss rate: 0.65%
-- Flow 2:
  Average throughput: 188.31 Mbit/s
  95th percentile per-packet one-way delay: 113.120 ms
  Loss rate: 1.06%
-- Flow 3:
  Average throughput: 139.50 Mbit/s
  95th percentile per-packet one-way delay: 122.559 ms
  Loss rate: 1.61%
Run 10: Report of TaoVA-100x — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 192.06 Mbps)
  - Flow 1 egress (mean 192.25 Mbps)
  - Flow 2 ingress (mean 188.04 Mbps)
  - Flow 2 egress (mean 188.31 Mbps)
  - Flow 3 ingress (mean 138.54 Mbps)
  - Flow 3 egress (mean 139.59 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 111.89 ms)
  - Flow 2 (95th percentile 113.12 ms)
  - Flow 3 (95th percentile 122.56 ms)
Run 1: Statistics of TCP Vegas

Start at: 2018-08-10 16:37:50
End at: 2018-08-10 16:38:20
Local clock offset: -0.031 ms
Remote clock offset: -0.297 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.94 Mbit/s
95th percentile per-packet one-way delay: 112.986 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 62.58 Mbit/s
95th percentile per-packet one-way delay: 113.138 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 33.06 Mbit/s
95th percentile per-packet one-way delay: 112.587 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 112.548 ms
Loss rate: 4.64%
Run 1: Report of TCP Vegas — Data Link

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

Start at: 2018-08-10 17:03:58
End at: 2018-08-10 17:04:28
Local clock offset: -0.042 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.09 Mbit/s
95th percentile per-packet one-way delay: 113.899 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 59.90 Mbit/s
95th percentile per-packet one-way delay: 114.890 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 31.90 Mbit/s
95th percentile per-packet one-way delay: 112.913 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 112.231 ms
Loss rate: 2.53%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-08-10 17:30:08
End at: 2018-08-10 17:30:39
Local clock offset: -1.452 ms
Remote clock offset: -0.191 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  95th percentile per-packet one-way delay: 110.552 ms
  Loss rate: 0.95%
-- Flow 1:
  Average throughput: 62.13 Mbit/s
  95th percentile per-packet one-way delay: 110.460 ms
  Loss rate: 0.75%
-- Flow 2:
  Average throughput: 61.01 Mbit/s
  95th percentile per-packet one-way delay: 110.739 ms
  Loss rate: 1.21%
-- Flow 3:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 110.093 ms
  Loss rate: 4.69%
Run 3: Report of TCP Vegas — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 4: Statistics of TCP Vegas

Start at: 2018-08-10 17:56:15
End at: 2018-08-10 17:56:45
Local clock offset: -0.788 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.15 Mbit/s
95th percentile per-packet one-way delay: 112.276 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 32.96 Mbit/s
95th percentile per-packet one-way delay: 112.117 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 33.16 Mbit/s
95th percentile per-packet one-way delay: 112.454 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 15.88 Mbit/s
95th percentile per-packet one-way delay: 112.417 ms
Loss rate: 2.64%
Run 4: Report of TCP Vegas — Data Link

![Graph 1: Throughput vs Time]

- Flow 1 ingress (mean 32.97 Mbit/s)
- Flow 1 egress (mean 32.96 Mbit/s)
- Flow 2 ingress (mean 33.19 Mbit/s)
- Flow 2 egress (mean 33.16 Mbit/s)
- Flow 3 ingress (mean 15.94 Mbit/s)
- Flow 3 egress (mean 15.88 Mbit/s)

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

- Flow 1 (95th percentile 112.12 ms)
- Flow 2 (95th percentile 112.45 ms)
- Flow 3 (95th percentile 112.42 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-08-10 18:22:44
End at: 2018-08-10 18:23:14
Local clock offset: 0.074 ms
Remote clock offset: -4.002 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.60 Mbit/s
95th percentile per-packet one-way delay: 112.009 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 59.58 Mbit/s
95th percentile per-packet one-way delay: 112.028 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 111.563 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 111.544 ms
Loss rate: 5.95%
Run 5: Report of TCP Vegas — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress** (mean 59.58 Mbps)
- **Flow 1 egress** (mean 59.58 Mbps)
- **Flow 2 ingress** (mean 2.60 Mbps)
- **Flow 2 egress** (mean 2.57 Mbps)
- **Flow 3 ingress** (mean 1.04 Mbps)
- **Flow 3 egress** (mean 1.00 Mbps)

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

- **Flow 1** (95th percentile 112.03 ms)
- **Flow 2** (95th percentile 111.56 ms)
- **Flow 3** (95th percentile 111.54 ms)
Run 6: Statistics of TCP Vegas

Start at: 2018-08-10 18:50:05
End at: 2018-08-10 18:50:35
Local clock offset: 0.095 ms
Remote clock offset: -3.406 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 129.43 Mbit/s
  95th percentile per-packet one-way delay: 112.617 ms
  Loss rate: 0.79%
-- Flow 1:
  Average throughput: 104.93 Mbit/s
  95th percentile per-packet one-way delay: 112.653 ms
  Loss rate: 0.74%
-- Flow 2:
  Average throughput: 36.25 Mbit/s
  95th percentile per-packet one-way delay: 112.382 ms
  Loss rate: 0.91%
-- Flow 3:
  Average throughput: 1.39 Mbit/s
  95th percentile per-packet one-way delay: 111.603 ms
  Loss rate: 4.41%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-08-10 19:17:24
End at: 2018-08-10 19:17:54
Local clock offset: -0.138 ms
Remote clock offset: -2.247 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.18 Mbit/s
95th percentile per-packet one-way delay: 111.213 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 38.27 Mbit/s
95th percentile per-packet one-way delay: 111.146 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 111.455 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 110.977 ms
Loss rate: 5.00%
Run 7: Report of TCP Vegas — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 38.23 Mbit/s)
Flow 1 egress (mean 38.27 Mbit/s)
Flow 2 ingress (mean 12.86 Mbit/s)
Flow 2 egress (mean 12.83 Mbit/s)
Flow 3 ingress (mean 1.25 Mbit/s)
Flow 3 egress (mean 1.22 Mbit/s)

Round-trip time (ms)

Time (s)

Flow 1 (95th percentile 111.15 ms)
Flow 2 (95th percentile 111.45 ms)
Flow 3 (95th percentile 110.98 ms)
Run 8: Statistics of TCP Vegas

Start at: 2018-08-10 19:45:38
End at: 2018-08-10 19:46:08
Local clock offset: 2.63 ms
Remote clock offset: -2.004 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.25 Mbit/s
95th percentile per-packet one-way delay: 114.764 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 56.78 Mbit/s
95th percentile per-packet one-way delay: 114.704 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 114.787 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 115.420 ms
Loss rate: 2.62%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-08-10 20:13:06
End at: 2018-08-10 20:13:36
Local clock offset: 0.058 ms
Remote clock offset: -0.699 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.55 Mbit/s
95th percentile per-packet one-way delay: 112.122 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 112.586 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 30.52 Mbit/s
95th percentile per-packet one-way delay: 111.890 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 111.217 ms
Loss rate: 2.54%
Run 9: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 20.67 Mbit/s)
- Flow 1 egress (mean 20.75 Mbit/s)
- Flow 2 ingress (mean 30.28 Mbit/s)
- Flow 2 egress (mean 30.52 Mbit/s)
- Flow 3 ingress (mean 51.00 Mbit/s)
- Flow 3 egress (mean 50.83 Mbit/s)

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

- Flow 1 (95th percentile 112.59 ms)
- Flow 2 (95th percentile 111.89 ms)
- Flow 3 (95th percentile 111.22 ms)
Run 10: Statistics of TCP Vegas

Start at: 2018-08-10 20:40:16
End at: 2018-08-10 20:40:46
Local clock offset: 2.844 ms
Remote clock offset: -0.347 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.00 Mbit/s
95th percentile per-packet one-way delay: 114.200 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 29.31 Mbit/s
95th percentile per-packet one-way delay: 113.760 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 12.80 Mbit/s
95th percentile per-packet one-way delay: 113.830 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 59.10 Mbit/s
95th percentile per-packet one-way delay: 114.684 ms
Loss rate: 2.67%
Run 10: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 29.23 Mbit/s)
- Flow 1 egress (mean 29.31 Mbit/s)
- Flow 2 ingress (mean 12.83 Mbit/s)
- Flow 2 egress (mean 12.80 Mbit/s)
- Flow 3 ingress (mean 59.36 Mbit/s)
- Flow 3 egress (mean 59.10 Mbit/s)
Run 1: Statistics of Verus

Start at: 2018-08-10 16:45:34
End at: 2018-08-10 16:46:04
Local clock offset: -0.048 ms
Remote clock offset: -0.207 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.62 Mbit/s
95th percentile per-packet one-way delay: 142.721 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 94.53 Mbit/s
95th percentile per-packet one-way delay: 129.875 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 90.70 Mbit/s
95th percentile per-packet one-way delay: 170.178 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 185.903 ms
Loss rate: 5.97%
Run 1: Report of Verus — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 93.81 Mbit/s) — Flow 1 egress (mean 94.53 Mbit/s)
Flow 2 ingress (mean 96.76 Mbit/s) — Flow 2 egress (mean 90.70 Mbit/s)
Flow 3 ingress (mean 35.59 Mbit/s) — Flow 3 egress (mean 34.25 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 129.98 ms) — Flow 2 (95th percentile 170.18 ms) — Flow 3 (95th percentile 185.90 ms)
Run 2: Statistics of Verus

Start at: 2018-08-10 17:11:33
End at: 2018-08-10 17:12:03
Local clock offset: 0.1 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 200.36 Mbit/s
  95th percentile per-packet one-way delay: 236.175 ms
  Loss rate: 3.40%
-- Flow 1:
  Average throughput: 96.71 Mbit/s
  95th percentile per-packet one-way delay: 134.729 ms
  Loss rate: 0.36%
-- Flow 2:
  Average throughput: 89.46 Mbit/s
  95th percentile per-packet one-way delay: 275.920 ms
  Loss rate: 6.35%
-- Flow 3:
  Average throughput: 140.35 Mbit/s
  95th percentile per-packet one-way delay: 259.190 ms
  Loss rate: 5.70%
Run 2: Report of Verus — Data Link

![Graph of throughput and packet delay over time for different flows.](image-url)
Run 3: Statistics of Verus

Start at: 2018-08-10 17:37:53
End at: 2018-08-10 17:38:23
Local clock offset: -0.446 ms
Remote clock offset: -0.237 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 238.45 Mbit/s
  95th percentile per-packet one-way delay: 218.579 ms
  Loss rate: 3.45%
-- Flow 1:
  Average throughput: 189.21 Mbit/s
  95th percentile per-packet one-way delay: 228.885 ms
  Loss rate: 3.88%
-- Flow 2:
  Average throughput: 57.47 Mbit/s
  95th percentile per-packet one-way delay: 121.087 ms
  Loss rate: 0.39%
-- Flow 3:
  Average throughput: 38.67 Mbit/s
  95th percentile per-packet one-way delay: 117.254 ms
  Loss rate: 6.14%
Run 3: Report of Verus — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 195.64 Mbit/s)
Flow 1 egress (mean 189.21 Mbit/s)
Flow 2 ingress (mean 57.00 Mbit/s)
Flow 2 egress (mean 57.47 Mbit/s)
Flow 3 ingress (mean 35.99 Mbit/s)
Flow 3 egress (mean 38.67 Mbit/s)

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

Time (s)

Flow 1 (95th percentile 228.88 ms)
Flow 2 (95th percentile 121.09 ms)
Flow 3 (95th percentile 117.25 ms)
Run 4: Statistics of Verus

Start at: 2018-08-10 18:03:46
End at: 2018-08-10 18:04:16
Local clock offset: -1.39 ms
Remote clock offset: -0.174 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.92 Mbit/s
95th percentile per-packet one-way delay: 138.471 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 98.34 Mbit/s
95th percentile per-packet one-way delay: 138.814 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 126.53 Mbit/s
95th percentile per-packet one-way delay: 138.010 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 139.616 ms
Loss rate: 0.10%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

Start at: 2018-08-10 18:30:32
End at: 2018-08-10 18:31:02
Local clock offset: 1.232 ms
Remote clock offset: -5.869 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 199.60 Mbit/s
  95th percentile per-packet one-way delay: 129.737 ms
  Loss rate: 0.99%
-- Flow 1:
  Average throughput: 142.47 Mbit/s
  95th percentile per-packet one-way delay: 131.160 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 57.33 Mbit/s
  95th percentile per-packet one-way delay: 126.353 ms
  Loss rate: 1.69%
-- Flow 3:
  Average throughput: 60.38 Mbit/s
  95th percentile per-packet one-way delay: 121.651 ms
  Loss rate: 0.00%
Run 5: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 142.38 Mbit/s) - Blue dashed line
- Flow 1 egress (mean 142.47 Mbit/s) - Blue solid line
- Flow 2 ingress (mean 57.65 Mbit/s) - Green dashed line
- Flow 2 egress (mean 57.33 Mbit/s) - Green solid line
- Flow 3 ingress (mean 59.03 Mbit/s) - Red dashed line
- Flow 3 egress (mean 60.36 Mbit/s) - Red solid line

Legend for delay:
- Flow 1 (95th percentile 131.16 ms) - Blue dot
- Flow 2 (95th percentile 126.35 ms) - Green dot
- Flow 3 (95th percentile 121.65 ms) - Red dot
Run 6: Statistics of Verus

Start at: 2018-08-10 18:57:49
End at: 2018-08-10 18:58:19
Local clock offset: -0.792 ms
Remote clock offset: -3.514 ms

# Below is generated by plot.py at 2018-08-10 23:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.81 Mbit/s
95th percentile per-packet one-way delay: 176.927 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 131.34 Mbit/s
95th percentile per-packet one-way delay: 135.320 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 109.33 Mbit/s
95th percentile per-packet one-way delay: 271.707 ms
Loss rate: 7.07%
-- Flow 3:
Average throughput: 67.63 Mbit/s
95th percentile per-packet one-way delay: 126.031 ms
Loss rate: 0.06%
Run 6: Report of Verus — Data Link
Run 7: Statistics of Verus

Start at: 2018-08-10 19:25:15
End at: 2018-08-10 19:25:45
Local clock offset: 2.694 ms
Remote clock offset: -2.03 ms

# Below is generated by plot.py at 2018-08-10 23:43:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 289.07 Mbit/s
  95th percentile per-packet one-way delay: 272.044 ms
  Loss rate: 5.27%
-- Flow 1:
  Average throughput: 177.33 Mbit/s
  95th percentile per-packet one-way delay: 300.606 ms
  Loss rate: 7.23%
-- Flow 2:
  Average throughput: 156.97 Mbit/s
  95th percentile per-packet one-way delay: 162.283 ms
  Loss rate: 1.70%
-- Flow 3:
  Average throughput: 26.00 Mbit/s
  95th percentile per-packet one-way delay: 153.803 ms
  Loss rate: 5.23%
Run 7: Report of Verus — Data Link

![Graphs showing throughput and packet delay over time for three different flows.](image-url)
Run 8: Statistics of Verus

Start at: 2018-08-10 19:53:27
End at: 2018-08-10 19:53:57
Local clock offset: 0.101 ms
Remote clock offset: -0.753 ms

# Below is generated by plot.py at 2018-08-10 23:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.37 Mbit/s
95th percentile per-packet one-way delay: 216.661 ms
Loss rate: 5.16%
-- Flow 1:
Average throughput: 219.25 Mbit/s
95th percentile per-packet one-way delay: 226.499 ms
Loss rate: 6.00%
-- Flow 2:
Average throughput: 149.03 Mbit/s
95th percentile per-packet one-way delay: 168.711 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 61.95 Mbit/s
95th percentile per-packet one-way delay: 204.139 ms
Loss rate: 10.75%
Run 8: Report of Verus — Data Link
Run 9: Statistics of Verus

Start at: 2018-08-10 20:20:45
End at: 2018-08-10 20:21:15
Local clock offset: -0.139 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2018-08-10 23:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.93 Mbit/s
95th percentile per-packet one-way delay: 161.659 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 104.33 Mbit/s
95th percentile per-packet one-way delay: 131.860 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 155.28 Mbit/s
95th percentile per-packet one-way delay: 208.397 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 75.40 Mbit/s
95th percentile per-packet one-way delay: 139.885 ms
Loss rate: 0.14%
Run 9: Report of Verus — Data Link

Time (s)

Throughput (Mbit/s)

Flow 1 ingress (mean 104.26 Mbit/s)  
Flow 1 egress (mean 104.33 Mbit/s)  
Flow 2 ingress (mean 154.42 Mbit/s)  
Flow 2 egress (mean 155.28 Mbit/s)  
Flow 3 ingress (mean 66.14 Mbit/s)  
Flow 3 egress (mean 75.40 Mbit/s)

Time (s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 131.96 ms)  
Flow 2 (95th percentile 208.40 ms)  
Flow 3 (95th percentile 139.88 ms)
Run 10: Statistics of Verus

Start at: 2018-08-10 20:47:55
End at: 2018-08-10 20:48:25
Local clock offset: -0.121 ms
Remote clock offset: -0.316 ms

# Below is generated by plot.py at 2018-08-10 23:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 166.78 Mbit/s
95th percentile per-packet one-way delay: 239.995 ms
Loss rate: 7.63%
-- Flow 1:
Average throughput: 68.95 Mbit/s
95th percentile per-packet one-way delay: 178.023 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 57.92 Mbit/s
95th percentile per-packet one-way delay: 289.729 ms
Loss rate: 11.22%
-- Flow 3:
Average throughput: 181.78 Mbit/s
95th percentile per-packet one-way delay: 237.299 ms
Loss rate: 11.94%
Run 10: Report of Verus — Data Link

Throughput (Mbit/s)

Flow 1 ingress (mean 69.62 Mbit/s)  
Flow 2 ingress (mean 64.52 Mbit/s)  
Flow 3 ingress (mean 202.03 Mbit/s)

Flow 1 egress (mean 68.95 Mbit/s)  
Flow 2 egress (mean 57.92 Mbit/s)  
Flow 3 egress (mean 181.78 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 178.02 ms)  
Flow 2 (95th percentile 289.73 ms)  
Flow 3 (95th percentile 237.30 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2018-08-10 16:47:00
End at: 2018-08-10 16:47:30
Local clock offset: -0.313 ms
Remote clock offset: 0.081 ms

# Below is generated by plot.py at 2018-08-10 23:47:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.10 Mbit/s
95th percentile per-packet one-way delay: 113.472 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 238.45 Mbit/s
95th percentile per-packet one-way delay: 114.476 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 76.81 Mbit/s
95th percentile per-packet one-way delay: 112.719 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 122.48 Mbit/s
95th percentile per-packet one-way delay: 112.917 ms
Loss rate: 2.89%
Run 1: Report of PCC-Vivace — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 238.02 Mbps)
- **Flow 1 egress** (mean 238.45 Mbps)
- **Flow 2 ingress** (mean 77.83 Mbps)
- **Flow 2 egress** (mean 76.81 Mbps)
- **Flow 3 ingress** (mean 123.27 Mbps)
- **Flow 3 egress** (mean 122.48 Mbps)

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

- **Flow 1** (95th percentile 114.48 ms)
- **Flow 2** (95th percentile 112.72 ms)
- **Flow 3** (95th percentile 112.92 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-10 17:13:02
End at: 2018-08-10 17:13:32
Local clock offset: -0.205 ms
Remote clock offset: -0.265 ms

# Below is generated by plot.py at 2018-08-10 23:47:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 285.39 Mbit/s
95th percentile per-packet one-way delay: 112.885 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 157.47 Mbit/s
95th percentile per-packet one-way delay: 119.581 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 155.99 Mbit/s
95th percentile per-packet one-way delay: 111.715 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 75.60 Mbit/s
95th percentile per-packet one-way delay: 111.679 ms
Loss rate: 3.34%
Run 2: Report of PCC-Vivace — Data Link

![Graph showing network performance metrics over time]

- **Throughput (Mb/s)**
  - Flow 1 ingress (mean 157.42 Mb/s)
  - Flow 2 ingress (mean 156.17 Mb/s)
  - Flow 3 ingress (mean 76.46 Mb/s)
  - Flow 1 egress (mean 157.47 Mb/s)
  - Flow 2 egress (mean 155.99 Mb/s)
  - Flow 3 egress (mean 75.60 Mb/s)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 119.58 ms)
  - Flow 2 (95th percentile 111.72 ms)
  - Flow 3 (95th percentile 111.68 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2018-08-10 17:39:26
End at: 2018-08-10 17:39:56
Local clock offset: -0.054 ms
Remote clock offset: -0.247 ms

# Below is generated by plot.py at 2018-08-10 23:47:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 311.05 Mbit/s
  95th percentile per-packet one-way delay: 111.749 ms
  Loss rate: 1.21%
-- Flow 1:
  Average throughput: 172.21 Mbit/s
  95th percentile per-packet one-way delay: 111.733 ms
  Loss rate: 0.84%
-- Flow 2:
  Average throughput: 172.57 Mbit/s
  95th percentile per-packet one-way delay: 111.689 ms
  Loss rate: 1.34%
-- Flow 3:
  Average throughput: 75.95 Mbit/s
  95th percentile per-packet one-way delay: 112.005 ms
  Loss rate: 3.17%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2018-08-10 18:05:15  
End at: 2018-08-10 18:05:45  
Local clock offset: 1.161 ms  
Remote clock offset: -0.191 ms

# Below is generated by plot.py at 2018-08-10 23:49:01  
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 350.42 Mbit/s  
  95th percentile per-packet one-way delay: 153.063 ms  
  Loss rate: 1.70%
-- Flow 1:
  Average throughput: 232.02 Mbit/s  
  95th percentile per-packet one-way delay: 127.136 ms  
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 86.32 Mbit/s  
  95th percentile per-packet one-way delay: 113.809 ms  
  Loss rate: 1.39%
-- Flow 3:
  Average throughput: 188.53 Mbit/s  
  95th percentile per-packet one-way delay: 231.747 ms  
  Loss rate: 5.52%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2018-08-10 18:32:02
End at: 2018-08-10 18:32:32
Local clock offset: 0.448 ms
Remote clock offset: -5.845 ms

# Below is generated by plot.py at 2018-08-10 23:51:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 487.73 Mbit/s
  95th percentile per-packet one-way delay: 114.424 ms
  Loss rate: 1.43%
-- Flow 1:
  Average throughput: 296.50 Mbit/s
  95th percentile per-packet one-way delay: 112.836 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 190.03 Mbit/s
  95th percentile per-packet one-way delay: 110.861 ms
  Loss rate: 1.70%
-- Flow 3:
  Average throughput: 200.94 Mbit/s
  95th percentile per-packet one-way delay: 145.105 ms
  Loss rate: 3.10%
Run 5: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 297.09 Mbps)  Flow 1 egress (mean 296.50 Mbps)
Flow 2 ingress (mean 191.15 Mbps)  Flow 2 egress (mean 190.03 Mbps)
Flow 3 ingress (mean 202.66 Mbps)  Flow 3 egress (mean 200.94 Mbps)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 112.94 ms)  Flow 2 (95th percentile 110.86 ms)  Flow 3 (95th percentile 145.10 ms)
Run 6: Statistics of PCC-Vivace

Start at: 2018-08-10 18:59:20
End at: 2018-08-10 18:59:50
Local clock offset: -0.067 ms
Remote clock offset: -4.332 ms

# Below is generated by plot.py at 2018-08-10 23:52:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 527.42 Mbit/s
95th percentile per-packet one-way delay: 136.331 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 299.28 Mbit/s
95th percentile per-packet one-way delay: 145.732 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 280.28 Mbit/s
95th percentile per-packet one-way delay: 126.725 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 130.81 Mbit/s
95th percentile per-packet one-way delay: 112.854 ms
Loss rate: 3.15%
Run 6: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 299.78 Mbit/s)
- Flow 1 egress (mean 299.28 Mbit/s)
- Flow 2 ingress (mean 282.17 Mbit/s)
- Flow 2 egress (mean 280.28 Mbit/s)
- Flow 3 ingress (mean 132.03 Mbit/s)
- Flow 3 egress (mean 130.81 Mbit/s)

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

- Flow 1 (95th percentile 145.73 ms)
- Flow 2 (95th percentile 126.72 ms)
- Flow 3 (95th percentile 112.85 ms)
Run 7: Statistics of PCC-Vivace

Start at: 2018-08-10 19:26:57
End at: 2018-08-10 19:27:27
Local clock offset: -0.28 ms
Remote clock offset: -2.005 ms

# Below is generated by plot.py at 2018-08-10 23:52:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.09 Mbit/s
95th percentile per-packet one-way delay: 112.765 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 307.94 Mbit/s
95th percentile per-packet one-way delay: 113.298 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 186.36 Mbit/s
95th percentile per-packet one-way delay: 112.127 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 131.48 Mbit/s
95th percentile per-packet one-way delay: 113.156 ms
Loss rate: 3.36%
Run 7: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 308.46 Mbit/s)
- Flow 1 egress (mean 307.94 Mbit/s)
- Flow 2 ingress (mean 187.32 Mbit/s)
- Flow 2 egress (mean 186.36 Mbit/s)
- Flow 3 ingress (mean 132.99 Mbit/s)
- Flow 3 egress (mean 131.48 Mbit/s)

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

- Flow 1 (95th percentile 113.30 ms)
- Flow 2 (95th percentile 112.13 ms)
- Flow 3 (95th percentile 113.16 ms)
Run 8: Statistics of PCC-Vivace

Start at: 2018-08-10 19:55:08
End at: 2018-08-10 19:55:38
Local clock offset: -0.18 ms
Remote clock offset: -1.024 ms

# Below is generated by plot.py at 2018-08-10 23:53:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 473.96 Mbit/s
95th percentile per-packet one-way delay: 112.192 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 300.78 Mbit/s
95th percentile per-packet one-way delay: 113.300 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 195.70 Mbit/s
95th percentile per-packet one-way delay: 111.399 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 134.04 Mbit/s
95th percentile per-packet one-way delay: 111.610 ms
Loss rate: 3.11%
Run 8: Report of PCC-Vivace — Data Link

The first chart shows the throughput over time for various flows, with different colors representing different flows and their ingress/egress rates. The second chart displays the per-packet one-way delay over time for the same flows, with symbols indicating the 95th percentile delays for each flow.

319
Run 9: Statistics of PCC-Vivace

Start at: 2018-08-10 20:22:17
End at: 2018-08-10 20:22:47
Local clock offset: 0.028 ms
Remote clock offset: -0.59 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.27 Mbit/s
95th percentile per-packet one-way delay: 116.361 ms
Loss rate: 1.66%

-- Flow 1:
Average throughput: 276.52 Mbit/s
95th percentile per-packet one-way delay: 129.013 ms
Loss rate: 1.06%

-- Flow 2:
Average throughput: 193.20 Mbit/s
95th percentile per-packet one-way delay: 111.364 ms
Loss rate: 1.79%

-- Flow 3:
Average throughput: 202.78 Mbit/s
95th percentile per-packet one-way delay: 119.876 ms
Loss rate: 3.82%
Run 9: Report of PCC-Vivace — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 277.40 Mbps)
  - Flow 1 egress (mean 276.52 Mbps)
  - Flow 2 ingress (mean 194.44 Mbps)
  - Flow 2 egress (mean 193.20 Mbps)
  - Flow 3 ingress (mean 296.06 Mbps)
  - Flow 3 egress (mean 202.78 Mbps)

- **Delay (ms)**
  - Flow 1 (95th percentile 129.01 ms)
  - Flow 2 (95th percentile 111.36 ms)
  - Flow 3 (95th percentile 119.88 ms)
Run 10: Statistics of PCC-Vivace

Start at: 2018-08-10 20:49:22
End at: 2018-08-10 20:49:52
Local clock offset: -0.043 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 452.64 Mbit/s
  95th percentile per-packet one-way delay: 210.814 ms
  Loss rate: 1.12%
-- Flow 1:
  Average throughput: 281.68 Mbit/s
  95th percentile per-packet one-way delay: 209.871 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 195.36 Mbit/s
  95th percentile per-packet one-way delay: 172.716 ms
  Loss rate: 1.30%
-- Flow 3:
  Average throughput: 127.91 Mbit/s
  95th percentile per-packet one-way delay: 281.250 ms
  Loss rate: 3.71%
Run 10: Report of PCC-Vivace — Data Link

Legend:
- Dashed line: Flow 1 ingress (mean 281.40 Mbit/s)
- Solid line: Flow 1 egress (mean 281.68 Mbit/s)
- Dotted line: Flow 2 ingress (mean 195.70 Mbit/s)
- Dashed-dotted line: Flow 2 egress (mean 195.36 Mbit/s)
- Dashed-dotted line with dots: Flow 3 ingress (mean 129.83 Mbit/s)
- Solid line with dots: Flow 3 egress (mean 127.91 Mbit/s)

Legend for delay:
- Blue line: Flow 1 (95th percentile 209.07 ms)
- Green line: Flow 2 (95th percentile 172.72 ms)
- Red line: Flow 3 (95th percentile 201.25 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-08-10 16:33:04
End at: 2018-08-10 16:33:34
Local clock offset: -0.963 ms
Remote clock offset: 0.139 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.79 Mbit/s
  95th percentile per-packet one-way delay: 110.430 ms
  Loss rate: 1.35%
-- Flow 1:
  Average throughput: 1.40 Mbit/s
  95th percentile per-packet one-way delay: 109.102 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 1.06 Mbit/s
  95th percentile per-packet one-way delay: 110.671 ms
  Loss rate: 1.31%
-- Flow 3:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 110.739 ms
  Loss rate: 3.84%
Run 1: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 1.40 Mbit/s) • Flow 1 egress (mean 1.40 Mbit/s)
Flow 2 ingress (mean 1.06 Mbit/s) • Flow 2 egress (mean 1.06 Mbit/s)
Flow 3 ingress (mean 0.38 Mbit/s) • Flow 3 egress (mean 0.36 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 109.10 ms) • Flow 2 (95th percentile 110.67 ms) • Flow 3 (95th percentile 110.74 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-08-10 16:59:18
End at: 2018-08-10 16:59:48
Local clock offset: -0.178 ms
Remote clock offset: -0.286 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.28 Mbit/s
  95th percentile per-packet one-way delay: 111.514 ms
  Loss rate: 1.56%
-- Flow 1:
  Average throughput: 1.87 Mbit/s
  95th percentile per-packet one-way delay: 111.542 ms
  Loss rate: 0.97%
-- Flow 2:
  Average throughput: 1.06 Mbit/s
  95th percentile per-packet one-way delay: 111.417 ms
  Loss rate: 1.66%
-- Flow 3:
  Average throughput: 0.38 Mbit/s
  95th percentile per-packet one-way delay: 111.100 ms
  Loss rate: 4.17%
Run 2: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 1.88 Mbps)
- Flow 1 egress (mean 1.87 Mbps)
- Flow 2 ingress (mean 1.07 Mbps)
- Flow 2 egress (mean 1.06 Mbps)
- Flow 3 ingress (mean 0.39 Mbps)
- Flow 3 egress (mean 0.36 Mbps)

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

- Flow 1 (95th percentile 111.54 ms)
- Flow 2 (95th percentile 111.42 ms)
- Flow 3 (95th percentile 111.10 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-08-10 17:25:19
End at: 2018-08-10 17:25:49
Local clock offset: -0.661 ms
Remote clock offset: -0.335 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 111.815 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 110.693 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 110.254 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 112.002 ms
Loss rate: 3.55%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2018-08-10 17:51:38
End at: 2018-08-10 17:52:08
Local clock offset: 0.029 ms
Remote clock offset: -0.259 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 111.903 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 111.963 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 111.810 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 111.445 ms
Loss rate: 5.46%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2018-08-10 18:17:54
End at: 2018-08-10 18:18:24
Local clock offset: -0.082 ms
Remote clock offset: -3.267 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 111.861 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 111.897 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 111.601 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 111.669 ms
Loss rate: 3.19%
Run 5: Report of WebRTC media — Data Link

![Graph of throughput and packet delay over time]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 1.81 Mbps)
  - Flow 1 egress (mean 1.80 Mbps)
  - Flow 2 ingress (mean 1.09 Mbps)
  - Flow 2 egress (mean 1.06 Mbps)
  - Flow 3 ingress (mean 0.38 Mbps)
  - Flow 3 egress (mean 0.37 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 111.90 ms)
  - Flow 2 (95th percentile 111.60 ms)
  - Flow 3 (95th percentile 111.67 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-08-10 18:45:12
End at: 2018-08-10 18:45:42
Local clock offset: 0.052 ms
Remote clock offset: -3.598 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
平均吞吐量: 3.27 Mbit/s
95th percentile per-packet one-way delay: 111.681 ms
Loss rate: 1.54%
-- Flow 1:
平均吞吐量: 1.84 Mbit/s
95th percentile per-packet one-way delay: 111.595 ms
Loss rate: 0.75%
-- Flow 2:
平均吞吐量: 1.08 Mbit/s
95th percentile per-packet one-way delay: 111.497 ms
Loss rate: 1.63%
-- Flow 3:
平均吞吐量: 0.38 Mbit/s
95th percentile per-packet one-way delay: 111.840 ms
Loss rate: 5.02%
Run 6: Report of WebRTC media — Data Link
Run 7: Statistics of WebRTC media

Start at: 2018-08-10 19:12:25
End at: 2018-08-10 19:12:55
Local clock offset: 2.784 ms
Remote clock offset: -3.302 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.26 Mbit/s
  95th percentile per-packet one-way delay: 116.425 ms
  Loss rate: 1.29%
-- Flow 1:
  Average throughput: 1.84 Mbit/s
  95th percentile per-packet one-way delay: 116.469 ms
  Loss rate: 0.76%
-- Flow 2:
  Average throughput: 1.07 Mbit/s
  95th percentile per-packet one-way delay: 113.881 ms
  Loss rate: 0.98%
-- Flow 3:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 114.007 ms
  Loss rate: 4.84%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-08-10 19:40:46
End at: 2018-08-10 19:41:16
Local clock offset: 2.703 ms
Remote clock offset: -2.52 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.17 Mbit/s
  95th percentile per-packet one-way delay: 114.515 ms
  Loss rate: 1.53%
-- Flow 1:
  Average throughput: 1.78 Mbit/s
  95th percentile per-packet one-way delay: 114.460 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 1.04 Mbit/s
  95th percentile per-packet one-way delay: 114.572 ms
  Loss rate: 1.38%
-- Flow 3:
  Average throughput: 0.38 Mbit/s
  95th percentile per-packet one-way delay: 114.020 ms
  Loss rate: 4.66%
Run 8: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.78 Mbit/s)
Flow 1 egress (mean 1.78 Mbit/s)
Flow 2 ingress (mean 1.05 Mbit/s)
Flow 2 egress (mean 1.04 Mbit/s)
Flow 3 ingress (mean 0.39 Mbit/s)
Flow 3 egress (mean 0.36 Mbit/s)

Packet loss one-way delay (ms)

Time (s)

Flow 1 (95th percentile 114.46 ms)
Flow 2 (95th percentile 114.57 ms)
Flow 3 (95th percentile 114.02 ms)
Run 9: Statistics of WebRTC media

Start at: 2018-08-10 20:08:04
End at: 2018-08-10 20:08:34
Local clock offset: -0.102 ms
Remote clock offset: -0.753 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.08 Mbit/s
  95th percentile per-packet one-way delay: 111.621 ms
  Loss rate: 1.16%
-- Flow 1:
  Average throughput: 1.74 Mbit/s
  95th percentile per-packet one-way delay: 111.515 ms
  Loss rate: 0.78%
-- Flow 2:
  Average throughput: 1.01 Mbit/s
  95th percentile per-packet one-way delay: 111.663 ms
  Loss rate: 1.23%
-- Flow 3:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 111.668 ms
  Loss rate: 2.80%
Run 10: Statistics of WebRTC media

Start at: 2018-08-10 20:35:13
End at: 2018-08-10 20:35:43
Local clock offset: -0.174 ms
Remote clock offset: -0.309 ms

# Below is generated by plot.py at 2018-08-10 23:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 111.446 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 110.398 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 111.514 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 111.536 ms
Loss rate: 3.95%
Run 10: Report of WebRTC media — Data Link