Pantheon Report

Data path: GCE Tokyo Ethernet (remote) → GCE Iowa Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 9250dbec7fb57193cddf1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b445a53e30537115c5a28436db4b834
third_party/fillp-sheep @ 37162fe9af852309ae06c93e75640ef710b5
third_party/genericCC @ d0153f8e594aa9e93b032143cedb9f58e562f4
third_party/indigo @ 260192e4aa9d58d38dc4fde0ecd9f90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaabb4a906ce6b7cf3c
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f6b2cbe8f464b1b39
third_party/pcc @ 1af03958fa0d66d6b23c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ dbcd33f43f5613e8acd08f92c4eb24f974ab
third_party/proto-uc @ 77961f1a8273a86b42f1bc8143bec978f3ccff42
third_party/scream-reproduce @ f099118d1421aa3131b1f11ff2064974e1da3b2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c5d78b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c660a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2ba5f86211435ae071a32f96b7d8c504587f55d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9d4735770d143a1fa2851
test from GCE Tokyo to GCE Iowa, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
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<td>flow 3</td>
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<td>173.03</td>
<td>171.51</td>
<td>159.79</td>
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<td>Copa</td>
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<td>Indigo</td>
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<td>LEDBAT</td>
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<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>415.11</td>
<td>71.67</td>
<td>27.86</td>
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<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>215.60</td>
<td>127.65</td>
<td>60.88</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>44.64</td>
<td>34.61</td>
<td>18.05</td>
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<td>SCReAM</td>
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<td>0.22</td>
<td>0.22</td>
<td>0.22</td>
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<tr>
<td>Sprout</td>
<td>10</td>
<td>1.00</td>
<td>1.14</td>
<td>1.47</td>
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<td>TaoVA-100x</td>
<td>10</td>
<td>135.89</td>
<td>106.97</td>
<td>144.33</td>
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<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>143.73</td>
<td>100.55</td>
<td>79.03</td>
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<tr>
<td>Verus</td>
<td>10</td>
<td>189.21</td>
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</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>283.37</td>
<td>240.86</td>
<td>127.76</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>1.93</td>
<td>1.29</td>
<td>0.51</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-07-11 14:45:08
End at: 2018-07-11 14:45:38
Local clock offset: 0.05 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2018-07-11 19:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.94 Mbit/s
95th percentile per-packet one-way delay: 96.319 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 170.32 Mbit/s
95th percentile per-packet one-way delay: 94.363 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 162.89 Mbit/s
95th percentile per-packet one-way delay: 95.825 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 143.87 Mbit/s
95th percentile per-packet one-way delay: 99.248 ms
Loss rate: 1.70%
Run 1: Report of TCP BBR — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 170.23 Mbps)
Flow 1 egress (mean 170.32 Mbps)
Flow 2 ingress (mean 163.00 Mbps)
Flow 2 egress (mean 162.89 Mbps)
Flow 3 ingress (mean 144.39 Mbps)
Flow 3 egress (mean 143.07 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 94.36 ms)
Flow 2 (95th percentile 95.83 ms)
Flow 3 (95th percentile 99.25 ms)
Run 2: Statistics of TCP BBR

Start at: 2018-07-11 15:10:01
End at: 2018-07-11 15:10:31
Local clock offset: 0.06 ms
Remote clock offset: 0.175 ms

# Below is generated by plot.py at 2018-07-11 19:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.18 Mbit/s
95th percentile per-packet one-way delay: 88.281 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 170.85 Mbit/s
95th percentile per-packet one-way delay: 86.640 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 167.89 Mbit/s
95th percentile per-packet one-way delay: 88.353 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 150.77 Mbit/s
95th percentile per-packet one-way delay: 90.990 ms
Loss rate: 1.61%
Run 2: Report of TCP BBR — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 171.10 Mbps)
- Flow 1 egress (mean 170.85 Mbps)
- Flow 2 ingress (mean 168.11 Mbps)
- Flow 2 egress (mean 167.89 Mbps)
- Flow 3 ingress (mean 151.32 Mbps)
- Flow 3 egress (mean 150.77 Mbps)

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

- Flow 1 (95th percentile 86.64 ms)
- Flow 2 (95th percentile 88.35 ms)
- Flow 3 (95th percentile 90.99 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-07-11 15:35:17
End at: 2018-07-11 15:35:47
Local clock offset: 0.039 ms
Remote clock offset: -1.258 ms

# Below is generated by plot.py at 2018-07-11 19:12:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 333.57 Mbit/s
95th percentile per-packet one-way delay: 78.311 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 169.40 Mbit/s
95th percentile per-packet one-way delay: 76.662 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 168.19 Mbit/s
95th percentile per-packet one-way delay: 77.968 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 159.25 Mbit/s
95th percentile per-packet one-way delay: 82.045 ms
Loss rate: 1.45%
Run 3: Report of TCP BBR — Data Link

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Run 4: Statistics of TCP BBR

Start at: 2018-07-11 16:00:19
End at: 2018-07-11 16:00:49
Local clock offset: 0.021 ms
Remote clock offset: 0.171 ms

# Below is generated by plot.py at 2018-07-11 19:12:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.60 Mbit/s
95th percentile per-packet one-way delay: 72.231 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 167.35 Mbit/s
95th percentile per-packet one-way delay: 71.926 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 177.53 Mbit/s
95th percentile per-packet one-way delay: 71.953 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 158.75 Mbit/s
95th percentile per-packet one-way delay: 73.341 ms
Loss rate: 1.41%
Run 4: Report of TCP BBR — Data Link

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

![Graph 2: Per-packet one-way delay](image2)
Run 5: Statistics of TCP BBR

Start at: 2018-07-11 16:25:31
End at: 2018-07-11 16:26:01
Local clock offset: 0.041 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2018-07-11 19:12:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 334.90 Mbit/s
  95th percentile per-packet one-way delay: 85.484 ms
  Loss rate: 0.71%
-- Flow 1:
  Average throughput: 172.44 Mbit/s
  95th percentile per-packet one-way delay: 83.618 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 166.04 Mbit/s
  95th percentile per-packet one-way delay: 85.558 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 158.15 Mbit/s
  95th percentile per-packet one-way delay: 89.257 ms
  Loss rate: 1.55%
Run 5: Report of TCP BBR — Data Link

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

- **Flow 1 ingress** (mean 172.58 Mbit/s)
- **Flow 1 egress** (mean 172.44 Mbit/s)
- **Flow 2 ingress** (mean 166.12 Mbit/s)
- **Flow 2 egress** (mean 166.04 Mbit/s)
- **Flow 3 ingress** (mean 158.60 Mbit/s)
- **Flow 3 egress** (mean 158.15 Mbit/s)

- **Flow 1** (95th percentile 83.62 ms)
- **Flow 2** (95th percentile 85.56 ms)
- **Flow 3** (95th percentile 89.26 ms)
Run 6: Statistics of TCP BBR

Start at: 2018-07-11 16:50:42
End at: 2018-07-11 16:51:12
Local clock offset: -0.02 ms
Remote clock offset: -1.149 ms

# Below is generated by plot.py at 2018-07-11 19:13:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 346.44 Mbit/s
  95th percentile per-packet one-way delay: 78.164 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 173.81 Mbit/s
  95th percentile per-packet one-way delay: 76.452 ms
  Loss rate: 0.37%
-- Flow 2:
  Average throughput: 176.20 Mbit/s
  95th percentile per-packet one-way delay: 78.501 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 170.23 Mbit/s
  95th percentile per-packet one-way delay: 80.136 ms
  Loss rate: 1.42%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-07-11 17:16:22
End at: 2018-07-11 17:16:52
Local clock offset: -0.006 ms
Remote clock offset: 0.095 ms

# Below is generated by plot.py at 2018-07-11 19:13:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 349.51 Mbit/s
  95th percentile per-packet one-way delay: 75.164 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 180.03 Mbit/s
  95th percentile per-packet one-way delay: 72.792 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 172.35 Mbit/s
  95th percentile per-packet one-way delay: 74.866 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 166.42 Mbit/s
  95th percentile per-packet one-way delay: 79.232 ms
  Loss rate: 1.47%
Run 7: Report of TCP BBR — Data Link
Run 8: Statistics of TCP BBR

Start at: 2018-07-11 17:41:38
End at: 2018-07-11 17:42:08
Local clock offset: -0.057 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-07-11 19:13:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.97 Mbit/s
95th percentile per-packet one-way delay: 70.229 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 174.69 Mbit/s
95th percentile per-packet one-way delay: 69.393 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 179.34 Mbit/s
95th percentile per-packet one-way delay: 70.653 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 161.15 Mbit/s
95th percentile per-packet one-way delay: 72.006 ms
Loss rate: 1.32%
Run 8: Report of TCP BBR — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 174.72 Mbps)
  - Flow 1 egress (mean 174.69 Mbps)
  - Flow 2 ingress (mean 179.45 Mbps)
  - Flow 2 egress (mean 179.34 Mbps)
  - Flow 3 ingress (mean 161.28 Mbps)
  - Flow 3 egress (mean 161.15 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 69.39 ms)
  - Flow 2 (95th percentile 70.65 ms)
  - Flow 3 (95th percentile 72.01 ms)
Run 9: Statistics of TCP BBR

Start at: 2018-07-11 18:06:30
End at: 2018-07-11 18:07:00
Local clock offset: 0.012 ms
Remote clock offset: 0.113 ms

# Below is generated by plot.py at 2018-07-11 19:18:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.75 Mbit/s
95th percentile per-packet one-way delay: 72.865 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 172.33 Mbit/s
95th percentile per-packet one-way delay: 71.167 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 169.42 Mbit/s
95th percentile per-packet one-way delay: 72.031 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 160.27 Mbit/s
95th percentile per-packet one-way delay: 76.132 ms
Loss rate: 1.43%
Run 10: Statistics of TCP BBR

End at: 2018-07-11 18:32:17
Local clock offset: -0.048 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 351.40 Mbit/s
  95th percentile per-packet one-way delay: 68.357 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 179.11 Mbit/s
  95th percentile per-packet one-way delay: 67.888 ms
  Loss rate: 0.44%
-- Flow 2:
  Average throughput: 175.29 Mbit/s
  95th percentile per-packet one-way delay: 69.121 ms
  Loss rate: 0.64%
-- Flow 3:
  Average throughput: 169.08 Mbit/s
  95th percentile per-packet one-way delay: 68.522 ms
  Loss rate: 1.38%
Run 10: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet round-trip delay over time for different flows.]
Run 1: Statistics of Copa

Start at: 2018-07-11 14:57:56
End at: 2018-07-11 14:58:26
Local clock offset: 0.073 ms
Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.95 Mbit/s
95th percentile per-packet one-way delay: 92.195 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 84.92 Mbit/s
95th percentile per-packet one-way delay: 93.448 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 62.73 Mbit/s
95th percentile per-packet one-way delay: 78.201 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 43.46 Mbit/s
95th percentile per-packet one-way delay: 101.459 ms
Loss rate: 0.42%
Run 1: Report of Copa — Data Link

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

Local clock offset: 0.053 ms
Remote clock offset: 1.318 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 130.08 Mbit/s
   95th percentile per-packet one-way delay: 79.396 ms
   Loss rate: 0.75%
-- Flow 1:
   Average throughput: 29.75 Mbit/s
   95th percentile per-packet one-way delay: 65.504 ms
   Loss rate: 0.70%
-- Flow 2:
   Average throughput: 115.00 Mbit/s
   95th percentile per-packet one-way delay: 81.215 ms
   Loss rate: 0.05%
-- Flow 3:
   Average throughput: 72.66 Mbit/s
   95th percentile per-packet one-way delay: 80.875 ms
   Loss rate: 2.95%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2018-07-11 15:48:02
Local clock offset: -0.002 ms
Remote clock offset: 0.134 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 139.37 Mbit/s
  95th percentile per-packet one-way delay: 74.819 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 103.38 Mbit/s
  95th percentile per-packet one-way delay: 78.232 ms
  Loss rate: 0.15%
-- Flow 2:
  Average throughput: 39.37 Mbit/s
  95th percentile per-packet one-way delay: 72.878 ms
  Loss rate: 2.22%
-- Flow 3:
  Average throughput: 30.03 Mbit/s
  95th percentile per-packet one-way delay: 66.757 ms
  Loss rate: 1.93%
Run 3: Report of Copa — Data Link

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

Throughput: Flow 1 ingress (mean 103.32 Mbit/s), Flow 1 egress (mean 103.38 Mbit/s), Flow 2 ingress (mean 49.00 Mbit/s), Flow 2 egress (mean 39.37 Mbit/s), Flow 3 ingress (mean 30.11 Mbit/s), Flow 3 egress (mean 30.03 Mbit/s)

Per-packet one way delay: Flow 1 (95th percentile 78.23 ms), Flow 2 (95th percentile 72.88 ms), Flow 3 (95th percentile 66.76 ms)
Run 4: Statistics of Copa

Start at: 2018-07-11 16:13:03
End at: 2018-07-11 16:13:33
Local clock offset: -0.025 ms
Remote clock offset: 1.289 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.79 Mbit/s
95th percentile per-packet one-way delay: 69.024 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 70.063 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 59.10 Mbit/s
95th percentile per-packet one-way delay: 66.219 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 61.99 Mbit/s
95th percentile per-packet one-way delay: 68.329 ms
Loss rate: 0.62%
Run 4: Report of Copa — Data Link

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

- **Throughput (Mbps)**: The graphs display the throughput for different flows over time. Each flow is represented by a line with a specific color:
  - Flow 1 ingress (mean 86.80 Mbps)
  - Flow 1 egress (mean 87.10 Mbps)
  - Flow 2 ingress (mean 58.82 Mbps)
  - Flow 2 egress (mean 59.10 Mbps)
  - Flow 3 ingress (mean 61.58 Mbps)
  - Flow 3 egress (mean 61.99 Mbps)

- **Per-packet one-way delay (ms)**: Similar graphs for per-packet one-way delay over time, with each flow represented by a specific color:
  - Flow 1 (95th percentile 70.06 ms)
  - Flow 2 (95th percentile 66.22 ms)
  - Flow 3 (95th percentile 68.33 ms)
Run 5: Statistics of Copa

Start at: 2018-07-11 16:38:12
End at: 2018-07-11 16:38:42
Local clock offset: 0.03 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-07-11 19:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.28 Mbit/s
95th percentile per-packet one-way delay: 69.120 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 134.38 Mbit/s
95th percentile per-packet one-way delay: 69.407 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.20 Mbit/s
95th percentile per-packet one-way delay: 67.128 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 66.03 Mbit/s
95th percentile per-packet one-way delay: 67.065 ms
Loss rate: 3.70%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

Start at: 2018-07-11 17:03:39
End at: 2018-07-11 17:04:09
Local clock offset: 0.021 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-11 19:20:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 225.87 Mbit/s
  95th percentile per-packet one-way delay: 71.759 ms
  Loss rate: 1.04%
-- Flow 1:
  Average throughput: 147.07 Mbit/s
  95th percentile per-packet one-way delay: 70.380 ms
  Loss rate: 0.49%
-- Flow 2:
  Average throughput: 80.77 Mbit/s
  95th percentile per-packet one-way delay: 78.791 ms
  Loss rate: 1.74%
-- Flow 3:
  Average throughput: 76.22 Mbit/s
  95th percentile per-packet one-way delay: 66.638 ms
  Loss rate: 2.72%
Run 6: Report of Copa — Data Link

![Graphs showing throughput and packet delay over time for different flows.](image-url)
Run 7: Statistics of Copa

Start at: 2018-07-11 17:29:19
End at: 2018-07-11 17:29:49
Local clock offset: -0.004 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-07-11 19:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 257.53 Mbit/s
95th percentile per-packet one-way delay: 76.450 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 146.23 Mbit/s
95th percentile per-packet one-way delay: 76.794 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 134.08 Mbit/s
95th percentile per-packet one-way delay: 75.197 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 67.14 Mbit/s
95th percentile per-packet one-way delay: 76.535 ms
Loss rate: 1.54%
Run 7: Report of Copa — Data Link

![Graph showing network traffic and packet delay over time.](image-url)
Run 8: Statistics of Copa

Start at: 2018-07-11 17:54:29
End at: 2018-07-11 17:54:59
Local clock offset: -0.0 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-11 19:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 145.30 Mbit/s
95th percentile per-packet one-way delay: 77.443 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 97.57 Mbit/s
95th percentile per-packet one-way delay: 71.419 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 82.327 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 27.95 Mbit/s
95th percentile per-packet one-way delay: 66.959 ms
Loss rate: 0.38%
Run 8: Report of Copa — Data Link

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

- Flow 1 ingress (mean 97.80 Mbit/s)
- Flow 1 egress (mean 97.57 Mbit/s)
- Flow 2 ingress (mean 57.76 Mbit/s)
- Flow 2 egress (mean 57.96 Mbit/s)
- Flow 3 ingress (mean 27.69 Mbit/s)
- Flow 3 egress (mean 27.95 Mbit/s)

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

- Flow 1 (95th percentile 71.42 ms)
- Flow 2 (95th percentile 82.33 ms)
- Flow 3 (95th percentile 66.96 ms)
Run 9: Statistics of Copa

End at: 2018-07-11 18:19:50
Local clock offset: -0.008 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2018-07-11 19:27:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 260.04 Mbit/s
  95th percentile per-packet one-way delay: 78.455 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 181.03 Mbit/s
  95th percentile per-packet one-way delay: 78.488 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 86.48 Mbit/s
  95th percentile per-packet one-way delay: 79.370 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 73.37 Mbit/s
  95th percentile per-packet one-way delay: 75.644 ms
  Loss rate: 0.00%
Run 9: Report of Copa — Data Link

[Graph showing throughput and end-to-end delay]
Run 10: Statistics of Copa

Start at: 2018-07-11 18:44:21
End at: 2018-07-11 18:44:51
Local clock offset: -0.033 ms
Remote clock offset: 1.148 ms

# Below is generated by plot.py at 2018-07-11 19:27:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.33 Mbit/s
95th percentile per-packet one-way delay: 73.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.91 Mbit/s
95th percentile per-packet one-way delay: 72.232 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 99.72 Mbit/s
95th percentile per-packet one-way delay: 75.499 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 82.20 Mbit/s
95th percentile per-packet one-way delay: 77.059 ms
Loss rate: 0.00%
Run 10: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2018-07-11 14:41:08
End at: 2018-07-11 14:41:38
Local clock offset: 0.023 ms
Remote clock offset: 0.311 ms

# Below is generated by plot.py at 2018-07-11 19:27:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 310.40 Mbit/s
  95th percentile per-packet one-way delay: 73.190 ms
  Loss rate: 0.56%
-- Flow 1:
  Average throughput: 186.69 Mbit/s
  95th percentile per-packet one-way delay: 72.802 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 184.94 Mbit/s
  95th percentile per-packet one-way delay: 73.737 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 3.30 Mbit/s
  95th percentile per-packet one-way delay: 69.745 ms
  Loss rate: 5.42%
Run 1: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 186.77 Mbit/s)**
- **Flow 1 egress (mean 186.69 Mbit/s)**
- **Flow 2 ingress (mean 135.01 Mbit/s)**
- **Flow 2 egress (mean 184.94 Mbit/s)**
- **Flow 3 ingress (mean 3.44 Mbit/s)**
- **Flow 3 egress (mean 3.30 Mbit/s)**
Run 2: Statistics of TCP Cubic

Start at: 2018-07-11 15:05:58
End at: 2018-07-11 15:06:28
Local clock offset: 0.032 ms
Remote clock offset: 1.288 ms

# Below is generated by plot.py at 2018-07-11 19:27:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.08 Mbit/s
95th percentile per-packet one-way delay: 109.833 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 177.91 Mbit/s
95th percentile per-packet one-way delay: 107.672 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 168.04 Mbit/s
95th percentile per-packet one-way delay: 111.577 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 141.74 Mbit/s
95th percentile per-packet one-way delay: 113.851 ms
Loss rate: 1.68%
Run 2: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 178.07 Mbit/s)
- Flow 1 egress (mean 177.91 Mbit/s)
- Flow 2 ingress (mean 168.27 Mbit/s)
- Flow 2 egress (mean 168.04 Mbit/s)
- Flow 3 ingress (mean 142.60 Mbit/s)
- Flow 3 egress (mean 141.74 Mbit/s)

![Graph 2: Packet Delays Over Time](image2)

- Flow 1 (95th percentile 107.67 ms)
- Flow 2 (95th percentile 111.58 ms)
- Flow 3 (95th percentile 113.85 ms)
Run 3: Statistics of TCP Cubic

Start at: 2018-07-11 15:31:15
End at: 2018-07-11 15:31:45
Local clock offset: 0.053 ms
Remote clock offset: -1.357 ms

# Below is generated by plot.py at 2018-07-11 19:27:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.32 Mbit/s
  95th percentile per-packet one-way delay: 81.989 ms
  Loss rate: 0.61%
-- Flow 1:
  Average throughput: 180.39 Mbit/s
  95th percentile per-packet one-way delay: 81.728 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 177.47 Mbit/s
  95th percentile per-packet one-way delay: 82.375 ms
  Loss rate: 0.75%
-- Flow 3:
  Average throughput: 3.01 Mbit/s
  95th percentile per-packet one-way delay: 78.301 ms
  Loss rate: 5.82%
Run 3: Report of TCP Cubic — Data Link

![Graph showing network throughput and packet loss over time for Run 3 with TCP Cubic protocol.](image)

- **Throughput as a function of time:**
  - Flow 1 Ingress: (mean 180.53 Mbit/s)
  - Flow 1 Egress: (mean 180.39 Mbit/s)
  - Flow 2 Ingress: (mean 177.66 Mbit/s)
  - Flow 2 Egress: (mean 177.47 Mbit/s)
  - Flow 3 Ingress: (mean 3.15 Mbit/s)
  - Flow 3 Egress: (mean 3.01 Mbit/s)

- **Packet loss as a function of time:**
  - Flow 1 (95th percentile 81.73 ms)
  - Flow 2 (95th percentile 82.38 ms)
  - Flow 3 (95th percentile 78.30 ms)
Run 4: Statistics of TCP Cubic

Start at: 2018-07-11 15:56:15
End at: 2018-07-11 15:56:45
Local clock offset: 0.03 ms
Remote clock offset: -0.285 ms

# Below is generated by plot.py at 2018-07-11 19:27:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.44 Mbit/s
95th percentile per-packet one-way delay: 102.489 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 171.05 Mbit/s
95th percentile per-packet one-way delay: 100.583 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 159.44 Mbit/s
95th percentile per-packet one-way delay: 104.045 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 146.98 Mbit/s
95th percentile per-packet one-way delay: 103.693 ms
Loss rate: 1.67%
Run 4: Report of TCP Cubic — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 171.23 Mbps)  Flow 1 egress (mean 171.05 Mbps)
Flow 2 ingress (mean 158.83 Mbps)  Flow 2 egress (mean 159.44 Mbps)
Flow 3 ingress (mean 147.65 Mbps)  Flow 3 egress (mean 146.98 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 100.58 ms)  Flow 2 (95th percentile 104.05 ms)  Flow 3 (95th percentile 103.69 ms)
Run 5: Statistics of TCP Cubic

End at: 2018-07-11 16:21:58
Local clock offset: -0.017 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2018-07-11 19:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.29 Mbit/s
95th percentile per-packet one-way delay: 81.317 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 183.50 Mbit/s
95th percentile per-packet one-way delay: 81.012 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 138.00 Mbit/s
95th percentile per-packet one-way delay: 81.853 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 70.321 ms
Loss rate: 5.48%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-07-11 16:46:43
End at: 2018-07-11 16:47:13
Local clock offset: 0.001 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2018-07-11 19:28:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 238.02 Mbit/s
95th percentile per-packet one-way delay: 71.760 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 118.10 Mbit/s
95th percentile per-packet one-way delay: 69.529 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 178.74 Mbit/s
95th percentile per-packet one-way delay: 72.608 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 69.699 ms
Loss rate: 5.38%
Run 6: Report of TCP Cubic — Data Link

```
0  5  10  15  20  25  30
0  25  50  75  100  125  150  175  200

Throughput (Mb/s)

Time (s)
```

Legend:
- Flow 1 ingress (mean 118.37 Mb/s)
- Flow 1 egress (mean 118.10 Mb/s)
- Flow 2 ingress (mean 178.02 Mb/s)
- Flow 2 egress (mean 178.74 Mb/s)
- Flow 3 ingress (mean 3.49 Mb/s)
- Flow 3 egress (mean 3.35 Mb/s)

```
0  5  10  15  20  25  30
60  80  100  120  140

Per-packet one-way delay (ms)

Time (s)
```

Legend:
- Flow 1 (95th percentile 69.53 ms)
- Flow 2 (95th percentile 72.61 ms)
- Flow 3 (95th percentile 69.70 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-07-11 17:12:14
End at: 2018-07-11 17:12:44
Local clock offset: -0.016 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-11 19:31:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 355.53 Mbit/s
  95th percentile per-packet one-way delay: 78.281 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 182.57 Mbit/s
  95th percentile per-packet one-way delay: 75.854 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 178.38 Mbit/s
  95th percentile per-packet one-way delay: 79.480 ms
  Loss rate: 0.57%
-- Flow 3:
  Average throughput: 166.02 Mbit/s
  95th percentile per-packet one-way delay: 80.280 ms
  Loss rate: 1.45%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-07-11 17:37:35
End at: 2018-07-11 17:38:05
Local clock offset: -0.007 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2018-07-11 19:31:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.21 Mbit/s
95th percentile per-packet one-way delay: 76.088 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 178.46 Mbit/s
95th percentile per-packet one-way delay: 73.694 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 39.10 Mbit/s
95th percentile per-packet one-way delay: 74.816 ms
Loss rate: 2.90%
-- Flow 3:
Average throughput: 163.36 Mbit/s
95th percentile per-packet one-way delay: 79.894 ms
Loss rate: 1.13%
Run 9: Statistics of TCP Cubic

Start at: 2018-07-11 18:02:31
End at: 2018-07-11 18:03:01
Local clock offset: 0.01 ms
Remote clock offset: 0.061 ms

# Below is generated by plot.py at 2018-07-11 19:31:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.91 Mbit/s
95th percentile per-packet one-way delay: 70.937 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 133.08 Mbit/s
95th percentile per-packet one-way delay: 70.984 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 118.61 Mbit/s
95th percentile per-packet one-way delay: 70.839 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 67.342 ms
Loss rate: 4.14%
Run 10: Statistics of TCP Cubic

Local clock offset: -0.085 ms
Remote clock offset: -0.322 ms

# Below is generated by plot.py at 2018-07-11 19:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.53 Mbit/s
95th percentile per-packet one-way delay: 73.579 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 187.59 Mbit/s
95th percentile per-packet one-way delay: 72.879 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 181.79 Mbit/s
95th percentile per-packet one-way delay: 74.242 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 70.282 ms
Loss rate: 5.39%
Run 10: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

End at: 2018-07-11 14:56:21
Local clock offset: 0.019 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-07-11 19:56:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1225.54 Mbit/s
95th percentile per-packet one-way delay: 256.835 ms
Loss rate: 8.20%
-- Flow 1:
Average throughput: 629.29 Mbit/s
95th percentile per-packet one-way delay: 234.175 ms
Loss rate: 7.06%
-- Flow 2:
Average throughput: 617.13 Mbit/s
95th percentile per-packet one-way delay: 280.220 ms
Loss rate: 8.91%
-- Flow 3:
Average throughput: 566.08 Mbit/s
95th percentile per-packet one-way delay: 224.259 ms
Loss rate: 10.40%
Run 1: Report of FillP — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 Ingress (mean 674.21 Mb/s)
Flow 1 Egress (mean 629.29 Mb/s)
Flow 2 Ingress (mean 673.12 Mb/s)
Flow 2 Egress (mean 617.13 Mb/s)
Flow 3 Ingress (mean 623.71 Mb/s)
Flow 3 Egress (mean 566.08 Mb/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 234.18 ms)
Flow 2 (95th percentile 280.22 ms)
Flow 3 (95th percentile 224.26 ms)
Run 2: Statistics of FillP

Start at: 2018-07-11 15:20:51
End at: 2018-07-11 15:21:21
Local clock offset: 0.088 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-11 19:56:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1186.47 Mbit/s
95th percentile per-packet one-way delay: 257.081 ms
Loss rate: 4.84%
-- Flow 1:
Average throughput: 672.51 Mbit/s
95th percentile per-packet one-way delay: 257.819 ms
Loss rate: 4.12%
-- Flow 2:
Average throughput: 616.04 Mbit/s
95th percentile per-packet one-way delay: 270.218 ms
Loss rate: 6.53%
-- Flow 3:
Average throughput: 321.26 Mbit/s
95th percentile per-packet one-way delay: 211.292 ms
Loss rate: 2.61%
Run 2: Report of FillP — Data Link

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

- **Flow 1 Ingress (mean 696.40 Mbit/s)**
- **Flow 1 Egress (mean 672.51 Mbit/s)**
- **Flow 2 Ingress (mean 654.93 Mbit/s)**
- **Flow 2 Egress (mean 616.04 Mbit/s)**
- **Flow 3 Ingress (mean 323.44 Mbit/s)**
- **Flow 3 Egress (mean 321.26 Mbit/s)**

![Graph 2: Per-packet end-to-end delay vs. Time](image)

- **Flow 1 (95th percentile 257.82 ms)**
- **Flow 2 (95th percentile 270.22 ms)**
- **Flow 3 (95th percentile 211.29 ms)**
Run 3: Statistics of FillP

Start at: 2018-07-11 15:45:51
End at: 2018-07-11 15:46:21
Local clock offset: 0.012 ms
Remote clock offset: 1.205 ms

# Below is generated by plot.py at 2018-07-11 20:00:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1381.91 Mbit/s
95th percentile per-packet one-way delay: 231.261 ms
Loss rate: 3.64%
-- Flow 1:
Average throughput: 734.46 Mbit/s
95th percentile per-packet one-way delay: 241.574 ms
Loss rate: 2.16%
-- Flow 2:
Average throughput: 671.49 Mbit/s
95th percentile per-packet one-way delay: 216.000 ms
Loss rate: 4.34%
-- Flow 3:
Average throughput: 611.32 Mbit/s
95th percentile per-packet one-way delay: 175.306 ms
Loss rate: 7.23%
Run 3: Report of FillP — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 747.61 Mbps)
  - Flow 1 egress (mean 734.46 Mbps)
  - Flow 2 ingress (mean 697.57 Mbps)
  - Flow 2 egress (mean 677.49 Mbps)
  - Flow 3 ingress (mean 650.75 Mbps)
  - Flow 3 egress (mean 611.32 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 241.57 ms)
  - Flow 2 (95th percentile 216.00 ms)
  - Flow 3 (95th percentile 175.31 ms)
Run 4: Statistics of FILLP

Start at: 2018-07-11 16:11:06  
End at: 2018-07-11 16:11:36  
Local clock offset: 0.002 ms  
Remote clock offset: 0.306 ms

# Below is generated by plot.py at 2018-07-11 20:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1042.40 Mbit/s
95th percentile per-packet one-way delay: 255.923 ms
Loss rate: 5.35%
-- Flow 1:
Average throughput: 566.94 Mbit/s
95th percentile per-packet one-way delay: 265.510 ms
Loss rate: 5.03%
-- Flow 2:
Average throughput: 400.84 Mbit/s
95th percentile per-packet one-way delay: 252.643 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 637.18 Mbit/s
95th percentile per-packet one-way delay: 221.793 ms
Loss rate: 11.21%
Run 4: Report of FillP — Data Link

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

Legend:
- **Flow 1 ingress (mean 594.52 Mbit/s)**
- **Flow 1 egress (mean 566.94 Mbit/s)**
- **Flow 2 ingress (mean 402.02 Mbit/s)**
- **Flow 2 egress (mean 400.64 Mbit/s)**
- **Flow 3 ingress (mean 708.25 Mbit/s)**
- **Flow 3 egress (mean 637.18 Mbit/s)**

Legend for delay:
- **Flow 1 (95th percentile 265.51 ms)**
- **Flow 2 (95th percentile 252.64 ms)**
- **Flow 3 (95th percentile 221.79 ms)**
Run 5: Statistics of FillP

Start at: 2018-07-11 16:36:05
End at: 2018-07-11 16:36:35
Local clock offset: -0.014 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-07-11 20:00:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1306.49 Mbit/s
95th percentile per-packet one-way delay: 226.745 ms
Loss rate: 6.23%
-- Flow 1:
Average throughput: 695.85 Mbit/s
95th percentile per-packet one-way delay: 237.874 ms
Loss rate: 5.59%
-- Flow 2:
Average throughput: 616.47 Mbit/s
95th percentile per-packet one-way delay: 233.369 ms
Loss rate: 8.82%
-- Flow 3:
Average throughput: 611.64 Mbit/s
95th percentile per-packet one-way delay: 161.378 ms
Loss rate: 2.90%
Run 5: Report of FillP — Data Link
Run 6: Statistics of FillP

Start at: 2018-07-11 17:01:28
End at: 2018-07-11 17:01:58
Local clock offset: -0.041 ms
Remote clock offset: 0.265 ms

# Below is generated by plot.py at 2018-07-11 20:03:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1407.06 Mbit/s
95th percentile per-packet one-way delay: 219.768 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 771.33 Mbit/s
95th percentile per-packet one-way delay: 218.984 ms
Loss rate: 2.41%
-- Flow 2:
Average throughput: 671.34 Mbit/s
95th percentile per-packet one-way delay: 243.799 ms
Loss rate: 3.61%
-- Flow 3:
Average throughput: 577.02 Mbit/s
95th percentile per-packet one-way delay: 159.629 ms
Loss rate: 7.41%
Run 6: Report of FillP — Data Link

![Graph of Throughput and Delay]

**Throughput (Mbit/s)**
- Flow 1 Ingress (mean 787.00 Mbit/s)
- Flow 1 Egress (mean 771.33 Mbit/s)
- Flow 2 Ingress (mean 692.12 Mbit/s)
- Flow 2 Egress (mean 677.34 Mbit/s)
- Flow 3 Ingress (mean 614.64 Mbit/s)
- Flow 3 Egress (mean 577.02 Mbit/s)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 218.98 ms)
- Flow 2 (95th percentile 243.80 ms)
- Flow 3 (95th percentile 159.63 ms)
Run 7: Statistics of FillP

Start at: 2018-07-11 17:27:03
End at: 2018-07-11 17:27:33
Local clock offset: -0.016 ms
Remote clock offset: 0.242 ms

# Below is generated by plot.py at 2018-07-11 20:06:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1455.65 Mbit/s
  95th percentile per-packet one-way delay: 220.673 ms
  Loss rate: 4.33%
-- Flow 1:
  Average throughput: 733.42 Mbit/s
  95th percentile per-packet one-way delay: 238.146 ms
  Loss rate: 3.46%
-- Flow 2:
  Average throughput: 793.41 Mbit/s
  95th percentile per-packet one-way delay: 194.181 ms
  Loss rate: 3.97%
-- Flow 3:
  Average throughput: 593.49 Mbit/s
  95th percentile per-packet one-way delay: 156.008 ms
  Loss rate: 8.36%
Run 7: Report of FillP — Data Link
Run 8: Statistics of FillP

Start at: 2018-07-11 17:52:25  
End at: 2018-07-11 17:52:55  
Local clock offset: -0.019 ms  
Remote clock offset: -0.238 ms

# Below is generated by plot.py at 2018-07-11 20:06:10  
# Datalink statistics

-- Total of 3 flows:
Average throughput: 1250.40 Mbit/s  
95th percentile per-packet one-way delay: 224.693 ms  
Loss rate: 5.75%

-- Flow 1:
Average throughput: 742.83 Mbit/s  
95th percentile per-packet one-way delay: 180.285 ms  
Loss rate: 5.78%

-- Flow 2:
Average throughput: 529.87 Mbit/s  
95th percentile per-packet one-way delay: 253.892 ms  
Loss rate: 6.61%

-- Flow 3:
Average throughput: 472.81 Mbit/s  
95th percentile per-packet one-way delay: 276.140 ms  
Loss rate: 3.57%
Run 8: Report of FillP — Data Link

[Graph showing throughput and per-packet end-to-end delay over time for various flows, with annotations indicating flow rates and percentiles.]
Run 9: Statistics of FillP

Start at: 2018-07-11 18:17:15
End at: 2018-07-11 18:17:45
Local clock offset: -0.057 ms
Remote clock offset: -1.243 ms

# Below is generated by plot.py at 2018-07-11 20:22:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1241.60 Mbit/s
95th percentile per-packet one-way delay: 159.499 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 618.85 Mbit/s
95th percentile per-packet one-way delay: 156.264 ms
Loss rate: 5.02%
-- Flow 2:
Average throughput: 664.16 Mbit/s
95th percentile per-packet one-way delay: 172.803 ms
Loss rate: 6.39%
-- Flow 3:
Average throughput: 553.91 Mbit/s
95th percentile per-packet one-way delay: 155.338 ms
Loss rate: 7.66%
Run 9: Report of FillP — Data Link

**Graph 1: Throughput (Mbps)**

- **Flow 1 Ingress** (mean 648.89 Mbps)
- **Flow 1 Egress** (mean 618.85 Mbps)
- **Flow 2 Ingress** (mean 705.09 Mbps)
- **Flow 2 Egress** (mean 664.16 Mbps)
- **Flow 3 Ingress** (mean 592.36 Mbps)
- **Flow 3 Egress** (mean 553.93 Mbps)

**Graph 2: Per-packet One-way Delay (ms)**

- **Flow 1** (95th percentile 156.26 ms)
- **Flow 2** (95th percentile 172.80 ms)
- **Flow 3** (95th percentile 155.34 ms)
Run 10: Statistics of FillP

End at: 2018-07-11 18:42:43
Local clock offset: -0.034 ms
Remote clock offset: 1.015 ms

# Below is generated by plot.py at 2018-07-11 20:29:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1360.43 Mbit/s
  95th percentile per-packet one-way delay: 162.977 ms
  Loss rate: 4.05%
-- Flow 1:
  Average throughput: 714.22 Mbit/s
  95th percentile per-packet one-way delay: 155.148 ms
  Loss rate: 3.89%
-- Flow 2:
  Average throughput: 662.08 Mbit/s
  95th percentile per-packet one-way delay: 161.182 ms
  Loss rate: 4.47%
-- Flow 3:
  Average throughput: 628.39 Mbit/s
  95th percentile per-packet one-way delay: 166.265 ms
  Loss rate: 3.68%
Run 10: Report of FillIP — Data Link

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

- **Flow 1 Ingress** (mean 740.11 Mb/s)
- **Flow 1 Egress** (mean 714.22 Mb/s)
- **Flow 2 Ingress** (mean 688.70 Mb/s)
- **Flow 2 Egress** (mean 662.08 Mb/s)
- **Flow 3 Ingress** (mean 644.26 Mb/s)
- **Flow 3 Egress** (mean 628.39 Mb/s)

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

- **Flow 1** (95th percentile 155.15 ms)
- **Flow 2** (95th percentile 161.18 ms)
- **Flow 3** (95th percentile 166.26 ms)
Run 1: Statistics of FillP-Sheep

End at: 2018-07-11 14:47:06
Local clock offset: -0.013 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2018-07-11 20:29:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1190.55 Mbit/s
95th percentile per-packet one-way delay: 209.915 ms
Loss rate: 7.68%
-- Flow 1:
Average throughput: 574.44 Mbit/s
95th percentile per-packet one-way delay: 215.925 ms
Loss rate: 12.70%
-- Flow 2:
Average throughput: 641.22 Mbit/s
95th percentile per-packet one-way delay: 208.861 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 580.04 Mbit/s
95th percentile per-packet one-way delay: 146.788 ms
Loss rate: 1.31%
Run 1: Report of FillP-Sheep — Data Link

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

- Flow 1 Ingress (mean 655.16 Mb/s)
- Flow 1 Egress (mean 574.44 Mb/s)
- Flow 2 Ingress (mean 656.54 Mb/s)
- Flow 2 Egress (mean 643.22 Mb/s)
- Flow 3 Ingress (mean 580.38 Mb/s)
- Flow 3 Egress (mean 580.04 Mb/s)

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

- Flow 1 (95th percentile 215.93 ms)
- Flow 2 (95th percentile 208.86 ms)
- Flow 3 (95th percentile 146.79 ms)
Run 2: Statistics of FillP-Sheep

End at: 2018-07-11 15:11:58
Local clock offset: 0.017 ms
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2018-07-11 20:30:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1227.94 Mbit/s
  95th percentile per-packet one-way delay: 191.895 ms
  Loss rate: 6.72%
-- Flow 1:
  Average throughput: 619.65 Mbit/s
  95th percentile per-packet one-way delay: 185.859 ms
  Loss rate: 9.06%
-- Flow 2:
  Average throughput: 641.98 Mbit/s
  95th percentile per-packet one-way delay: 206.746 ms
  Loss rate: 4.43%
-- Flow 3:
  Average throughput: 553.85 Mbit/s
  95th percentile per-packet one-way delay: 145.888 ms
  Loss rate: 3.71%
Run 2: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 678.60 Mbps/s)
- Flow 1 egress (mean 619.65 Mbps/s)
- Flow 2 ingress (mean 667.58 Mbps/s)
- Flow 2 egress (mean 643.98 Mbps/s)
- Flow 3 ingress (mean 568.12 Mbps/s)
- Flow 3 egress (mean 553.83 Mbps/s)

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

- Flow 1 (95th percentile 185.96 ms)
- Flow 2 (95th percentile 206.75 ms)
- Flow 3 (95th percentile 145.89 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-11 15:36:44
End at: 2018-07-11 15:37:14
Local clock offset: 0.038 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2018-07-11 20:30:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1148.27 Mbit/s
95th percentile per-packet one-way delay: 235.183 ms
Loss rate: 7.54%
-- Flow 1:
Average throughput: 598.19 Mbit/s
95th percentile per-packet one-way delay: 194.847 ms
Loss rate: 8.08%
-- Flow 2:
Average throughput: 613.58 Mbit/s
95th percentile per-packet one-way delay: 280.084 ms
Loss rate: 5.23%
-- Flow 3:
Average throughput: 434.07 Mbit/s
95th percentile per-packet one-way delay: 218.607 ms
Loss rate: 11.57%
Run 3: Report of FillP-Sheep — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 648.08 Mbps)  
Flow 1 egress (mean 598.19 Mbps)  
Flow 2 ingress (mean 643.44 Mbps)  
Flow 2 egress (mean 613.58 Mbps)  
Flow 3 ingress (mean 494.75 Mbps)  
Flow 3 egress (mean 434.07 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 194.85 ms)  
Flow 2 (95th percentile 280.08 ms)  
Flow 3 (95th percentile 210.61 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-11 16:01:46
End at: 2018-07-11 16:02:16
Local clock offset: 0.038 ms
Remote clock offset: -0.443 ms

# Below is generated by plot.py at 2018-07-11 20:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1205.23 Mbit/s
95th percentile per-packet one-way delay: 250.667 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 667.39 Mbit/s
95th percentile per-packet one-way delay: 252.651 ms
Loss rate: 4.88%
-- Flow 2:
Average throughput: 580.08 Mbit/s
95th percentile per-packet one-way delay: 259.813 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 464.55 Mbit/s
95th percentile per-packet one-way delay: 83.776 ms
Loss rate: 1.36%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-11 16:26:59
End at: 2018-07-11 16:27:29
Local clock offset: -0.005 ms
Remote clock offset: 1.128 ms

# Below is generated by plot.py at 2018-07-11 20:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 892.69 Mbit/s
95th percentile per-packet one-way delay: 287.551 ms
Loss rate: 12.11%
-- Flow 1:
Average throughput: 270.07 Mbit/s
95th percentile per-packet one-way delay: 300.485 ms
Loss rate: 12.19%
-- Flow 2:
Average throughput: 628.57 Mbit/s
95th percentile per-packet one-way delay: 276.703 ms
Loss rate: 14.22%
-- Flow 3:
Average throughput: 624.93 Mbit/s
95th percentile per-packet one-way delay: 159.972 ms
Loss rate: 7.36%
Run 5: Report of FillP-Sheep — Data Link

Throughput (Mbps/s)

Time (s)

Flow 1 ingress (mean 306.29 Mbps/s)
Flow 1 egress (mean 270.07 Mbps/s)
Flow 2 ingress (mean 728.97 Mbps/s)
Flow 2 egress (mean 628.57 Mbps/s)
Flow 3 ingress (mean 666.32 Mbps/s)
Flow 3 egress (mean 624.93 Mbps/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 300.49 ms)
Flow 2 (95th percentile 276.70 ms)
Flow 3 (95th percentile 159.97 ms)
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-11 16:52:10
End at: 2018-07-11 16:52:40
Local clock offset: -0.013 ms
Remote clock offset: 1.386 ms

# Below is generated by plot.py at 2018-07-11 20:33:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1107.28 Mbit/s
  95th percentile per-packet one-way delay: 231.705 ms
  Loss rate: 3.48%
-- Flow 1:
  Average throughput: 589.10 Mbit/s
  95th percentile per-packet one-way delay: 243.536 ms
  Loss rate: 5.22%
-- Flow 2:
  Average throughput: 552.48 Mbit/s
  95th percentile per-packet one-way delay: 142.827 ms
  Loss rate: 1.53%
-- Flow 3:
  Average throughput: 461.14 Mbit/s
  95th percentile per-packet one-way delay: 80.367 ms
  Loss rate: 1.19%
Run 6: Report of FillP-Sheep — Data Link

![Graph of throughput and per-packet one-way delay](image_url)

**Throughput (Mbps):**
- Flow 1 ingress (mean 618.92 Mbps)
- Flow 1 egress (mean 589.10 Mbps)
- Flow 2 ingress (mean 557.46 Mbps)
- Flow 2 egress (mean 552.48 Mbps)
- Flow 3 ingress (mean 460.88 Mbps)
- Flow 3 egress (mean 461.14 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 243.54 ms)
- Flow 2 (95th percentile 142.83 ms)
- Flow 3 (95th percentile 80.37 ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-11 17:17:50
End at: 2018-07-11 17:18:20
Local clock offset: 0.016 ms
Remote clock offset: -1.285 ms

# Below is generated by plot.py at 2018-07-11 20:53:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1130.54 Mbit/s
95th percentile per-packet one-way delay: 177.404 ms
Loss rate: 5.46%
-- Flow 1:
Average throughput: 605.17 Mbit/s
95th percentile per-packet one-way delay: 195.154 ms
Loss rate: 6.71%
-- Flow 2:
Average throughput: 573.60 Mbit/s
95th percentile per-packet one-way delay: 158.493 ms
Loss rate: 4.51%
-- Flow 3:
Average throughput: 440.54 Mbit/s
95th percentile per-packet one-way delay: 89.672 ms
Loss rate: 2.53%
Run 7: Report of FillP-Sheep — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 646.40 Mbps)
- Flow 1 egress (mean 605.17 Mbps)
- Flow 2 ingress (mean 596.94 Mbps)
- Flow 2 egress (mean 573.60 Mbps)
- Flow 3 ingress (mean 446.15 Mbps)
- Flow 3 egress (mean 440.54 Mbps)

Per packet one-way delay (ms):

- Flow 1 (95th percentile 195.15 ms)
- Flow 2 (95th percentile 158.49 ms)
- Flow 3 (95th percentile 89.67 ms)
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-11 17:43:05
End at: 2018-07-11 17:43:35
Local clock offset: 0.002 ms
Remote clock offset: 0.026 ms

# Below is generated by plot.py at 2018-07-11 20:55:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1199.34 Mbit/s
  95th percentile per-packet one-way delay: 176.911 ms
  Loss rate: 5.91%
-- Flow 1:
  Average throughput: 669.67 Mbit/s
  95th percentile per-packet one-way delay: 181.996 ms
  Loss rate: 4.71%
-- Flow 2:
  Average throughput: 530.77 Mbit/s
  95th percentile per-packet one-way delay: 172.723 ms
  Loss rate: 9.45%
-- Flow 3:
  Average throughput: 538.06 Mbit/s
  95th percentile per-packet one-way delay: 130.070 ms
  Loss rate: 2.94%
Run 8: Report of FillP-Sheep — Data Link

![Graph of Throughput and Packet Delay](image)

Legend:
- Flow 1 Ingress (mean 699.93 Mbit/s)
- Flow 1 Egress (mean 669.67 Mbit/s)
- Flow 2 Ingress (mean 582.53 Mbit/s)
- Flow 2 Egress (mean 530.77 Mbit/s)
- Flow 3 Ingress (mean 547.40 Mbit/s)
- Flow 3 Egress (mean 538.06 Mbit/s)

Legend for Packet Delay:
- Flow 1 (95th percentile 182.00 ms)
- Flow 2 (95th percentile 172.72 ms)
- Flow 3 (95th percentile 110.07 ms)
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-11 18:07:57
End at: 2018-07-11 18:08:27
Local clock offset: -0.037 ms
Remote clock offset: -0.544 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1131.16 Mbit/s
95th percentile per-packet one-way delay: 212.609 ms
Loss rate: 9.44%
-- Flow 1:
Average throughput: 576.59 Mbit/s
95th percentile per-packet one-way delay: 239.178 ms
Loss rate: 12.11%
-- Flow 2:
Average throughput: 599.55 Mbit/s
95th percentile per-packet one-way delay: 175.821 ms
Loss rate: 8.31%
-- Flow 3:
Average throughput: 476.61 Mbit/s
95th percentile per-packet one-way delay: 80.470 ms
Loss rate: 1.51%
Run 9: Report of FillP-Sheep — Data Link

![Graph 1: Throughput vs Time](image1)
- Flow 1 Ingress (mean 653.31 Mbit/s)
- Flow 1 Egress (mean 576.59 Mbit/s)
- Flow 2 Ingress (mean 650.35 Mbit/s)
- Flow 2 Egress (mean 599.55 Mbit/s)
- Flow 3 Ingress (mean 478.18 Mbit/s)
- Flow 3 Egress (mean 476.63 Mbit/s)

![Graph 2: Per-packet one-way delay vs Time](image2)
- Flow 1 (95th percentile 239.18 ms)
- Flow 2 (95th percentile 175.82 ms)
- Flow 3 (95th percentile 80.47 ms)
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-11 18:33:14
End at: 2018-07-11 18:33:44
Local clock offset: -0.029 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 733.20 Mbit/s
95th percentile per-packet one-way delay: 267.270 ms
Loss rate: 10.96%
-- Flow 1:
Average throughput: 180.51 Mbit/s
95th percentile per-packet one-way delay: 287.504 ms
Loss rate: 5.34%
-- Flow 2:
Average throughput: 605.56 Mbit/s
95th percentile per-packet one-way delay: 231.010 ms
Loss rate: 10.66%
-- Flow 3:
Average throughput: 458.21 Mbit/s
95th percentile per-packet one-way delay: 263.825 ms
Loss rate: 17.58%
Run 10: Report of FillIP-Sheep — Data Link

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

- **Throughput (Mbps)**: Flow 1 Ingress (mean 189.76 Mbps), Flow 1 Egress (mean 180.51 Mbps), Flow 2 Ingress (mean 673.62 Mbps), Flow 2 Egress (mean 605.56 Mbps), Flow 3 Ingress (mean 549.10 Mbps), Flow 3 Egress (mean 458.22 Mbps).

- **Packet Delay (ms)**: Flow 1 (95th percentile 287.50 ms), Flow 2 (95th percentile 231.01 ms), Flow 3 (95th percentile 263.02 ms).
Run 1: Statistics of Indigo

Start at: 2018-07-11 14:50:11
End at: 2018-07-11 14:50:41
Local clock offset: 0.051 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 364.75 Mbit/s
  95th percentile per-packet one-way delay: 75.461 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 208.51 Mbit/s
  95th percentile per-packet one-way delay: 72.570 ms
  Loss rate: 0.46%
-- Flow 2:
  Average throughput: 200.29 Mbit/s
  95th percentile per-packet one-way delay: 77.930 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 46.07 Mbit/s
  95th percentile per-packet one-way delay: 74.843 ms
  Loss rate: 1.63%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2018-07-11 15:15:03
End at: 2018-07-11 15:15:33
Local clock offset: 0.055 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:  
Average throughput: 376.57 Mbit/s  
95th percentile per-packet one-way delay: 84.176 ms  
Loss rate: 0.61%
-- Flow 1:  
Average throughput: 202.57 Mbit/s  
95th percentile per-packet one-way delay: 82.903 ms  
Loss rate: 0.41%
-- Flow 2:  
Average throughput: 200.09 Mbit/s  
95th percentile per-packet one-way delay: 84.360 ms  
Loss rate: 0.61%
-- Flow 3:  
Average throughput: 127.51 Mbit/s  
95th percentile per-packet one-way delay: 87.421 ms  
Loss rate: 1.60%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-07-11 15:40:17
End at: 2018-07-11 15:40:47
Local clock offset: 0.059 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 365.80 Mbit/s
95th percentile per-packet one-way delay: 83.492 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 207.56 Mbit/s
95th percentile per-packet one-way delay: 82.531 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 186.26 Mbit/s
95th percentile per-packet one-way delay: 83.800 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 108.53 Mbit/s
95th percentile per-packet one-way delay: 84.437 ms
Loss rate: 1.85%
Run 4: Statistics of Indigo

Start at: 2018-07-11 16:05:22
End at: 2018-07-11 16:05:52
Local clock offset: 0.058 ms
Remote clock offset: 0.059 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 365.30 Mbit/s
95th percentile per-packet one-way delay: 88.563 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 198.24 Mbit/s
95th percentile per-packet one-way delay: 87.393 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 190.36 Mbit/s
95th percentile per-packet one-way delay: 88.983 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 128.00 Mbit/s
95th percentile per-packet one-way delay: 89.809 ms
Loss rate: 1.57%
Run 4: Report of Indigo — Data Link

![Graph 1: Throughput vs Time]

- **Flow 1 ingress (mean 198.24 Mbit/s)**
- **Flow 1 egress (mean 198.24 Mbit/s)**
- **Flow 2 ingress (mean 190.36 Mbit/s)**
- **Flow 2 egress (mean 190.36 Mbit/s)**
- **Flow 3 ingress (mean 128.39 Mbit/s)**
- **Flow 3 egress (mean 128.00 Mbit/s)**

![Graph 2: Packet Delay vs Time]

- **Flow 1 (95th percentile 87.39 ms)**
- **Flow 2 (95th percentile 88.98 ms)**
- **Flow 3 (95th percentile 89.81 ms)**

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Run 5: Statistics of Indigo

Start at: 2018-07-11 16:30:20
End at: 2018-07-11 16:30:50
Local clock offset: -0.009 ms
Remote clock offset: 0.206 ms

# Below is generated by plot.py at 2018-07-11 20:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.12 Mbit/s
95th percentile per-packet one-way delay: 81.611 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 206.06 Mbit/s
95th percentile per-packet one-way delay: 79.363 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 202.49 Mbit/s
95th percentile per-packet one-way delay: 82.135 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 128.19 Mbit/s
95th percentile per-packet one-way delay: 95.778 ms
Loss rate: 1.40%
Run 5: Report of Indigo — Data Link

![Graph of Throughput](image1)

**Throughput (Mbps)**

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

**Per-packet one-way delay (ms)**
Run 6: Statistics of Indigo

End at: 2018-07-11 16:56:14
Local clock offset: -0.011 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.58 Mbit/s
95th percentile per-packet one-way delay: 75.680 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 205.98 Mbit/s
95th percentile per-packet one-way delay: 74.494 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 203.94 Mbit/s
95th percentile per-packet one-way delay: 76.477 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 140.07 Mbit/s
95th percentile per-packet one-way delay: 76.555 ms
Loss rate: 1.57%
Run 6: Report of Indigo — Data Link

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

![Graph 2: Per-packet one way delay (ms)](image2)
Run 7: Statistics of Indigo

End at: 2018-07-11 17:21:52
Local clock offset: 0.004 ms
Remote clock offset: -0.248 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.56 Mbit/s
95th percentile per-packet one-way delay: 74.607 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 196.14 Mbit/s
95th percentile per-packet one-way delay: 73.750 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 206.96 Mbit/s
95th percentile per-packet one-way delay: 74.896 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 122.88 Mbit/s
95th percentile per-packet one-way delay: 75.707 ms
Loss rate: 1.65%
Run 7: Report of Indigo — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 196.13 Mbps)
  - Flow 1 egress (mean 196.14 Mbps)
  - Flow 2 ingress (mean 206.83 Mbps)
  - Flow 2 egress (mean 206.96 Mbps)
  - Flow 3 ingress (mean 123.35 Mbps)
  - Flow 3 egress (mean 122.08 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 73.75 ms)
  - Flow 2 (95th percentile 74.90 ms)
  - Flow 3 (95th percentile 75.71 ms)
Run 8: Statistics of Indigo

Start at: 2018-07-11 17:46:42
End at: 2018-07-11 17:47:12
Local clock offset: -0.02 ms
Remote clock offset: -0.169 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.07 Mbit/s
95th percentile per-packet one-way delay: 71.635 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 210.01 Mbit/s
95th percentile per-packet one-way delay: 70.225 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 202.84 Mbit/s
95th percentile per-packet one-way delay: 71.788 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 146.53 Mbit/s
95th percentile per-packet one-way delay: 74.011 ms
Loss rate: 1.52%
Run 8: Report of Indigo — Data Link
Run 9: Statistics of Indigo

Start at: 2018-07-11 18:11:32  
End at: 2018-07-11 18:12:02  
Local clock offset: -0.004 ms  
Remote clock offset: 0.925 ms

# Below is generated by plot.py at 2018-07-11 20:56:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 390.46 Mbit/s  
95th percentile per-packet one-way delay: 75.237 ms  
Loss rate: 0.64%  
-- Flow 1:  
Average throughput: 201.14 Mbit/s  
95th percentile per-packet one-way delay: 74.126 ms  
Loss rate: 0.44%  
-- Flow 2:  
Average throughput: 202.68 Mbit/s  
95th percentile per-packet one-way delay: 74.942 ms  
Loss rate: 0.64%  
-- Flow 3:  
Average throughput: 170.87 Mbit/s  
95th percentile per-packet one-way delay: 77.545 ms  
Loss rate: 1.41%
Run 10: Statistics of Indigo

Start at: 2018-07-11 18:36:29
End at: 2018-07-11 18:36:59
Local clock offset: -0.078 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.12 Mbit/s
95th percentile per-packet one-way delay: 78.109 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 207.22 Mbit/s
95th percentile per-packet one-way delay: 76.743 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 166.88 Mbit/s
95th percentile per-packet one-way delay: 78.033 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 182.90 Mbit/s
95th percentile per-packet one-way delay: 79.315 ms
Loss rate: 1.51%
Run 10: Report of Indigo — Data Link

![Graph showing throughput and packet round trip delay over time]

- Flow 1 ingress (mean 207.20 Mbps)
- Flow 1 egress (mean 207.22 Mbps)
- Flow 2 ingress (mean 166.82 Mbps)
- Flow 2 egress (mean 166.88 Mbps)
- Flow 3 ingress (mean 183.35 Mbps)
- Flow 3 egress (mean 182.99 Mbps)
Run 1: Statistics of LEDBAT

Start at: 2018-07-11 14:37:06  
End at: 2018-07-11 14:37:36  
Local clock offset: -0.039 ms  
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.89 Mbit/s
95th percentile per-packet one-way delay: 62.599 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 24.02 Mbit/s
95th percentile per-packet one-way delay: 62.566 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 15.93 Mbit/s
95th percentile per-packet one-way delay: 62.746 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 62.007 ms
Loss rate: 3.32%
Run 1: Report of LEDBAT — Data Link

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

- **Throughput (Mbps/s)**
  - Flow 1 ingress (mean 24.12 Mbps/s)
  - Flow 1 egress (mean 24.02 Mbps/s)
  - Flow 2 ingress (mean 16.03 Mbps/s)
  - Flow 2 egress (mean 15.93 Mbps/s)
  - Flow 3 ingress (mean 4.23 Mbps/s)
  - Flow 3 egress (mean 4.15 Mbps/s)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 62.57 ms)
  - Flow 2 (95th percentile 62.75 ms)
  - Flow 3 (95th percentile 62.01 ms)
Run 2: Statistics of LEDBAT

Start at: 2018-07-11 15:02:06
End at: 2018-07-11 15:02:36
Local clock offset: -0.004 ms
Remote clock offset: -0.204 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.85 Mbit/s
95th percentile per-packet one-way delay: 67.884 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 18.85 Mbit/s
95th percentile per-packet one-way delay: 68.036 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 14.32 Mbit/s
95th percentile per-packet one-way delay: 67.686 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 66.927 ms
Loss rate: 2.50%
Run 2: Report of LEDBAT — Data Link
Run 3: Statistics of LEDBAT

Local clock offset: 0.043 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.52 Mbit/s
95th percentile per-packet one-way delay: 62.722 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 23.42 Mbit/s
95th percentile per-packet one-way delay: 62.796 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 15.90 Mbit/s
95th percentile per-packet one-way delay: 62.654 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 62.392 ms
Loss rate: 2.47%
Run 3: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 23.32 Mbps)**
- **Flow 1 egress (mean 23.42 Mbps)**
- **Flow 2 ingress (mean 16.00 Mbps)**
- **Flow 2 egress (mean 15.90 Mbps)**
- **Flow 3 ingress (mean 7.96 Mbps)**
- **Flow 3 egress (mean 7.86 Mbps)**
Run 4: Statistics of LEDBAT

Start at: 2018-07-11 15:52:10
End at: 2018-07-11 15:52:40
Local clock offset: 0.009 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.37 Mbit/s
95th percentile per-packet one-way delay: 67.642 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 19.74 Mbit/s
95th percentile per-packet one-way delay: 67.778 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 9.84 Mbit/s
95th percentile per-packet one-way delay: 67.210 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 62.153 ms
Loss rate: 2.70%
Run 4: Report of LEDBAT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 19.80 Mbps)
Flow 1 egress (mean 19.74 Mbps)
Flow 2 ingress (mean 9.93 Mbps)
Flow 2 egress (mean 9.84 Mbps)
Flow 3 ingress (mean 6.51 Mbps)
Flow 3 egress (mean 6.41 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 67.78 ms)
Flow 2 (95th percentile 67.21 ms)
Flow 3 (95th percentile 62.15 ms)
Run 5: Statistics of LEDBAT

Start at: 2018-07-11 16:17:19
End at: 2018-07-11 16:17:49
Local clock offset: -0.012 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 31.69 Mbit/s
 95th percentile per-packet one-way delay: 62.779 ms
 Loss rate: 1.15%
-- Flow 1:
 Average throughput: 19.00 Mbit/s
 95th percentile per-packet one-way delay: 62.788 ms
 Loss rate: 0.92%
-- Flow 2:
 Average throughput: 15.64 Mbit/s
 95th percentile per-packet one-way delay: 62.914 ms
 Loss rate: 1.24%
-- Flow 3:
 Average throughput: 7.16 Mbit/s
 95th percentile per-packet one-way delay: 62.011 ms
 Loss rate: 2.58%
Run 6: Statistics of LEDBAT

Start at: 2018-07-11 16:42:26
End at: 2018-07-11 16:42:56
Local clock offset: 0.011 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 62.461 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 23.58 Mbit/s
95th percentile per-packet one-way delay: 62.631 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 62.156 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 62.086 ms
Loss rate: 2.53%
Run 6: Report of LEDBAT — Data Link
Run 7: Statistics of LEDBAT

Start at: 2018-07-11 17:07:57
End at: 2018-07-11 17:08:27
Local clock offset: -0.045 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.58 Mbit/s
95th percentile per-packet one-way delay: 62.821 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 22.41 Mbit/s
95th percentile per-packet one-way delay: 63.077 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 14.58 Mbit/s
95th percentile per-packet one-way delay: 62.558 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 7.74 Mbit/s
95th percentile per-packet one-way delay: 62.019 ms
Loss rate: 2.50%
Run 7: Report of LEDBAT — Data Link
Run 8: Statistics of LEDBAT

Start at: 2018-07-11 17:33:38
End at: 2018-07-11 17:34:08
Local clock offset: 0.026 ms
Remote clock offset: -0.263 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.30 Mbit/s
95th percentile per-packet one-way delay: 67.453 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 20.97 Mbit/s
95th percentile per-packet one-way delay: 67.633 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 15.43 Mbit/s
95th percentile per-packet one-way delay: 63.272 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 61.972 ms
Loss rate: 2.75%
Run 8: Report of LEDBAT — Data Link

![Graph of throughput and delay over time showing the performance of different flows.]

- Flow 1 ingress (mean 21.07 Mbit/s)
- Flow 1 egress (mean 20.97 Mbit/s)
- Flow 2 ingress (mean 15.52 Mbit/s)
- Flow 2 egress (mean 15.43 Mbit/s)
- Flow 3 ingress (mean 6.49 Mbit/s)
- Flow 3 egress (mean 6.39 Mbit/s)
Run 9: Statistics of LEDBAT

Start at: 2018-07-11 17:58:31
End at: 2018-07-11 17:59:01
Local clock offset: 0.034 ms
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 28.63 Mbit/s
  95th percentile per-packet one-way delay: 68.282 ms
  Loss rate: 1.00%
-- Flow 1:
  Average throughput: 17.10 Mbit/s
  95th percentile per-packet one-way delay: 68.230 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 13.95 Mbit/s
  95th percentile per-packet one-way delay: 68.344 ms
  Loss rate: 1.29%
-- Flow 3:
  Average throughput: 7.00 Mbit/s
  95th percentile per-packet one-way delay: 68.367 ms
  Loss rate: 2.59%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-07-11 18:23:40
End at: 2018-07-11 18:24:10
Local clock offset: -0.049 ms
Remote clock offset: 1.165 ms

# Below is generated by plot.py at 2018-07-11 20:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.00 Mbit/s
95th percentile per-packet one-way delay: 65.373 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 22.94 Mbit/s
95th percentile per-packet one-way delay: 65.725 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 15.88 Mbit/s
95th percentile per-packet one-way delay: 61.196 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 61.099 ms
Loss rate: 2.50%
Run 10: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 23.03 Mbit/s)
- Flow 1 egress (mean 22.94 Mbit/s)
- Flow 2 ingress (mean 15.98 Mbit/s)
- Flow 2 egress (mean 15.88 Mbit/s)
- Flow 3 ingress (mean 7.79 Mbit/s)
- Flow 3 egress (mean 7.70 Mbit/s)

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

- Flow 1 (95th percentile 65.72 ms)
- Flow 2 (95th percentile 61.20 ms)
- Flow 3 (95th percentile 61.10 ms)
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-11 14:43:43
End at: 2018-07-11 14:44:13
Local clock offset: -0.006 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2018-07-11 20:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.35 Mbit/s
95th percentile per-packet one-way delay: 113.804 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 368.04 Mbit/s
95th percentile per-packet one-way delay: 114.384 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 46.61 Mbit/s
95th percentile per-packet one-way delay: 110.566 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 108.636 ms
Loss rate: 1.26%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-11 15:08:36
End at: 2018-07-11 15:09:06
Local clock offset: 0.034 ms
Remote clock offset: 1.212 ms

# Below is generated by plot.py at 2018-07-11 20:59:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 407.35 Mbit/s
  95th percentile per-packet one-way delay: 204.183 ms
  Loss rate: 5.98%
-- Flow 1:
  Average throughput: 250.00 Mbit/s
  95th percentile per-packet one-way delay: 205.042 ms
  Loss rate: 4.88%
-- Flow 2:
  Average throughput: 236.30 Mbit/s
  95th percentile per-packet one-way delay: 203.684 ms
  Loss rate: 7.65%
-- Flow 3:
  Average throughput: 1.77 Mbit/s
  95th percentile per-packet one-way delay: 207.567 ms
  Loss rate: 15.18%
Run 2: Report of PCC-Allegro — Data Link

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

Flow 1 ingress (mean 261.64 Mbit/s), Flow 1 egress (mean 250.00 Mbit/s),
Flow 2 ingress (mean 254.14 Mbit/s), Flow 2 egress (mean 236.39 Mbit/s),
Flow 3 ingress (mean 2.96 Mbit/s), Flow 3 egress (mean 1.77 Mbit/s).

Flow 1 (95th percentile 205.04 ms), Flow 2 (95th percentile 203.68 ms),
Flow 3 (95th percentile 207.57 ms).
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-11 15:33:50
End at: 2018-07-11 15:34:20
Local clock offset: 0.035 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-07-11 21:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 439.19 Mbit/s
95th percentile per-packet one-way delay: 190.471 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 396.16 Mbit/s
95th percentile per-packet one-way delay: 191.731 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 62.69 Mbit/s
95th percentile per-packet one-way delay: 141.471 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 100.999 ms
Loss rate: 1.39%
Run 3: Report of PCC-Allegro — Data Link

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

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

- **Flow 1 ingress** (mean 398.43 Mbit/s)
- **Flow 1 egress** (mean 396.16 Mbit/s)
- **Flow 2 ingress** (mean 62.75 Mbit/s)
- **Flow 2 egress** (mean 62.69 Mbit/s)
- **Flow 3 ingress** (mean 4.38 Mbit/s)
- **Flow 3 egress** (mean 4.37 Mbit/s)

- **Flow 1 (95th percentile 191.73 ms)**
- **Flow 2 (95th percentile 141.47 ms)**
- **Flow 3 (95th percentile 101.00 ms)**
Run 4: Statistics of PCC-Allegro

Local clock offset: 0.045 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-11 21:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.63 Mbit/s
95th percentile per-packet one-way delay: 210.568 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 377.39 Mbit/s
95th percentile per-packet one-way delay: 210.334 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 32.88 Mbit/s
95th percentile per-packet one-way delay: 210.812 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 60.39 Mbit/s
95th percentile per-packet one-way delay: 212.443 ms
Loss rate: 3.74%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-11 16:24:03
End at: 2018-07-11 16:24:33
Local clock offset: 0.009 ms
Remote clock offset: 0.021 ms

# Below is generated by plot.py at 2018-07-11 21:03:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 498.92 Mbit/s
  95th percentile per-packet one-way delay: 203.813 ms
  Loss rate: 1.84%
-- Flow 1:
  Average throughput: 446.05 Mbit/s
  95th percentile per-packet one-way delay: 204.097 ms
  Loss rate: 1.96%
-- Flow 2:
  Average throughput: 77.67 Mbit/s
  95th percentile per-packet one-way delay: 105.059 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 4.16 Mbit/s
  95th percentile per-packet one-way delay: 105.669 ms
  Loss rate: 1.35%
Run 5: Report of PCC-Allegro — Data Link

![Graph showing throughput and round-trip time for flows 1, 2, and 3.]

- **Throughput Graph**:
  - Flow 1 Ingress (mean 453.01 Mbps)
  - Flow 1 Egress (mean 446.05 Mbps)
  - Flow 2 Ingress (mean 77.72 Mbps)
  - Flow 2 Egress (mean 77.67 Mbps)
  - Flow 3 Ingress (mean 4.16 Mbps)
  - Flow 3 Egress (mean 4.16 Mbps)

- **Round-Trip Time Graph**:  
  - Flow 1 (95th percentile 204.10 ms)
  - Flow 2 (95th percentile 105.06 ms)
  - Flow 3 (95th percentile 105.67 ms)
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-11 16:49:15
End at: 2018-07-11 16:49:45
Local clock offset: -0.019 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-07-11 21:03:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.01 Mbit/s
95th percentile per-packet one-way delay: 199.246 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 442.43 Mbit/s
95th percentile per-packet one-way delay: 199.331 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 197.849 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 15.15 Mbit/s
95th percentile per-packet one-way delay: 198.848 ms
Loss rate: 5.82%
Run 6: Report of PCC-Allegro — Data Link

![Graph showing throughput and delay over time for different flows.]
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-11 17:14:53
End at: 2018-07-11 17:15:23
Local clock offset: -0.077 ms
Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2018-07-11 21:06:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.86 Mbit/s
95th percentile per-packet one-way delay: 192.199 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 463.80 Mbit/s
95th percentile per-packet one-way delay: 191.972 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 33.81 Mbit/s
95th percentile per-packet one-way delay: 192.327 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 60.11 Mbit/s
95th percentile per-packet one-way delay: 193.512 ms
Loss rate: 1.56%
Run 7: Report of PCC-Allegro — Data Link
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-11 17:40:08
End at: 2018-07-11 17:40:38
Local clock offset: -0.033 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-07-11 21:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.93 Mbit/s
95th percentile per-packet one-way delay: 193.414 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 488.14 Mbit/s
95th percentile per-packet one-way delay: 194.870 ms
Loss rate: 2.18%
-- Flow 2:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 184.104 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 165.347 ms
Loss rate: 1.31%
Run 8: Report of PCC-Allegro — Data Link
Run 9: Statistics of PCC-Allegro

Start at: 2018-07-11 18:05:00
End at: 2018-07-11 18:05:30
Local clock offset: -0.042 ms
Remote clock offset: -1.307 ms

# Below is generated by plot.py at 2018-07-11 21:09:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 538.04 Mbit/s
  95th percentile per-packet one-way delay: 203.762 ms
  Loss rate: 4.17%
-- Flow 1:
  Average throughput: 464.82 Mbit/s
  95th percentile per-packet one-way delay: 211.419 ms
  Loss rate: 3.82%
-- Flow 2:
  Average throughput: 57.20 Mbit/s
  95th percentile per-packet one-way delay: 190.184 ms
  Loss rate: 4.24%
-- Flow 3:
  Average throughput: 107.99 Mbit/s
  95th percentile per-packet one-way delay: 185.249 ms
  Loss rate: 8.52%
Run 10: Statistics of PCC-Allegro

Start at: 2018-07-11 18:30:19
End at: 2018-07-11 18:30:49
Local clock offset: -0.044 ms
Remote clock offset: -0.0 ms

# Below is generated by plot.py at 2018-07-11 21:09:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 506.95 Mbit/s
95th percentile per-packet one-way delay: 157.009 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 454.26 Mbit/s
95th percentile per-packet one-way delay: 157.261 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 71.46 Mbit/s
95th percentile per-packet one-way delay: 152.602 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 16.22 Mbit/s
95th percentile per-packet one-way delay: 158.538 ms
Loss rate: 1.39%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-07-11 14:59:19
End at: 2018-07-11 14:59:49
Local clock offset: 0.019 ms
Remote clock offset: 1.448 ms

# Below is generated by plot.py at 2018-07-11 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.01 Mbit/s
95th percentile per-packet one-way delay: 324.156 ms
Loss rate: 14.19%
-- Flow 1:
Average throughput: 292.80 Mbit/s
95th percentile per-packet one-way delay: 327.081 ms
Loss rate: 15.56%
-- Flow 2:
Average throughput: 96.69 Mbit/s
95th percentile per-packet one-way delay: 199.301 ms
Loss rate: 7.44%
-- Flow 3:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 201.470 ms
Loss rate: 11.86%
Run 1: Report of PCC-Expr — Data Link

**Throughput Graph**
- Flow 1 ingress (mean 345.33 Mbit/s)
- Flow 1 egress (mean 292.80 Mbit/s)
- Flow 2 ingress (mean 103.81 Mbit/s)
- Flow 2 egress (mean 96.69 Mbit/s)
- Flow 3 ingress (mean 10.76 Mbit/s)
- Flow 3 egress (mean 9.55 Mbit/s)

**Per-packet one-way delay Graph**
- Flow 1 (95th percentile 327.08 ms)
- Flow 2 (95th percentile 199.30 ms)
- Flow 3 (95th percentile 201.47 ms)
Run 2: Statistics of PCC-Expr

End at: 2018-07-11 15:24:44
Local clock offset: 0.04 ms
Remote clock offset: 1.395 ms

# Below is generated by plot.py at 2018-07-11 21:17:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.49 Mbit/s
95th percentile per-packet one-way delay: 187.460 ms
Loss rate: 4.29%
-- Flow 1:
Average throughput: 341.09 Mbit/s
95th percentile per-packet one-way delay: 191.582 ms
Loss rate: 4.85%
-- Flow 2:
Average throughput: 72.54 Mbit/s
95th percentile per-packet one-way delay: 65.473 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 68.05 Mbit/s
95th percentile per-packet one-way delay: 62.733 ms
Loss rate: 2.70%
Run 2: Report of PCC-Expr — Data Link

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

Flow 1 ingress (mean 357.00 Mbit/s)  
Flow 1 egress (mean 341.09 Mbit/s)  
Flow 2 ingress (mean 72.74 Mbit/s)  
Flow 2 egress (mean 72.54 Mbit/s)  
Flow 3 ingress (mean 69.02 Mbit/s)  
Flow 3 egress (mean 68.05 Mbit/s)

Per packet one way delay (ms)  
- Flow 1 (95th percentile 191.58 ms)  
- Flow 2 (95th percentile 65.47 ms)  
- Flow 3 (95th percentile 62.73 ms)
Run 3: Statistics of PCC-Expr

End at: 2018-07-11 15:49:54
Local clock offset: 0.04 ms
Remote clock offset: -1.424 ms

# Below is generated by plot.py at 2018-07-11 21:17:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.10 Mbit/s
95th percentile per-packet one-way delay: 207.283 ms
Loss rate: 4.65%
-- Flow 1:
Average throughput: 165.45 Mbit/s
95th percentile per-packet one-way delay: 201.800 ms
Loss rate: 3.97%
-- Flow 2:
Average throughput: 248.12 Mbit/s
95th percentile per-packet one-way delay: 210.304 ms
Loss rate: 5.27%
-- Flow 3:
Average throughput: 5.99 Mbit/s
95th percentile per-packet one-way delay: 211.530 ms
Loss rate: 9.40%
Run 3: Report of PCC-Expr — Data Link

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

![Graph 2: Per-packet one-way delay vs. Time](image2)
Run 4: Statistics of PCC-Expr

Start at: 2018-07-11 16:14:27
End at: 2018-07-11 16:14:57
Local clock offset: 0.03 ms
Remote clock offset: 0.163 ms

# Below is generated by plot.py at 2018-07-11 21:20:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.45 Mbit/s
95th percentile per-packet one-way delay: 197.173 ms
Loss rate: 6.04%
-- Flow 1:
Average throughput: 238.46 Mbit/s
95th percentile per-packet one-way delay: 189.540 ms
Loss rate: 3.96%
-- Flow 2:
Average throughput: 210.15 Mbit/s
95th percentile per-packet one-way delay: 198.778 ms
Loss rate: 6.05%
-- Flow 3:
Average throughput: 123.85 Mbit/s
95th percentile per-packet one-way delay: 199.345 ms
Loss rate: 16.60%
Run 4: Report of PCC-Expr — Data Link
Run 5: Statistics of PCC-Expr

End at: 2018-07-11 16:40:08
Local clock offset: 0.014 ms
Remote clock offset: 0.111 ms

# Below is generated by plot.py at 2018-07-11 21:20:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 306.70 Mbit/s
  95th percentile per-packet one-way delay: 264.450 ms
  Loss rate: 5.66%
-- Flow 1:
  Average throughput: 239.47 Mbit/s
  95th percentile per-packet one-way delay: 267.394 ms
  Loss rate: 6.77%
-- Flow 2:
  Average throughput: 59.98 Mbit/s
  95th percentile per-packet one-way delay: 66.941 ms
  Loss rate: 0.73%
-- Flow 3:
  Average throughput: 83.80 Mbit/s
  95th percentile per-packet one-way delay: 69.155 ms
  Loss rate: 2.53%
Run 5: Report of PCC-Expr — Data Link

Throughput (Mbps)

- Flow 1 ingress (mean 255.74 Mbps)
- Flow 1 egress (mean 239.47 Mbps)
- Flow 2 ingress (mean 60.02 Mbps)
- Flow 2 egress (mean 59.98 Mbps)
- Flow 3 ingress (mean 84.85 Mbps)
- Flow 3 egress (mean 63.80 Mbps)

Per packet one way delay (ms)

- Flow 1 (95th percentile 267.39 ms)
- Flow 2 (95th percentile 66.94 ms)
- Flow 3 (95th percentile 69.16 ms)
Run 6: Statistics of PCC-Expr

Start at: 2018-07-11 17:05:09
End at: 2018-07-11 17:05:39
Local clock offset: 0.002 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2018-07-11 21:20:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.40 Mbit/s
95th percentile per-packet one-way delay: 142.593 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 215.84 Mbit/s
95th percentile per-packet one-way delay: 147.702 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 127.32 Mbit/s
95th percentile per-packet one-way delay: 114.874 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 36.89 Mbit/s
95th percentile per-packet one-way delay: 77.062 ms
Loss rate: 3.34%
Run 6: Report of PCC-Expr — Data Link
Run 7: Statistics of PCC-Expr

Start at: 2018-07-11 17:30:53
End at: 2018-07-11 17:31:23
Local clock offset: 0.014 ms
Remote clock offset: 0.059 ms

# Below is generated by plot.py at 2018-07-11 21:20:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 277.92 Mbit/s
  95th percentile per-packet one-way delay: 97.881 ms
  Loss rate: 0.89%
-- Flow 1:
  Average throughput: 204.11 Mbit/s
  95th percentile per-packet one-way delay: 110.771 ms
  Loss rate: 0.49%
-- Flow 2:
  Average throughput: 52.37 Mbit/s
  95th percentile per-packet one-way delay: 67.921 ms
  Loss rate: 0.76%
-- Flow 3:
  Average throughput: 119.40 Mbit/s
  95th percentile per-packet one-way delay: 70.334 ms
  Loss rate: 3.05%
Run 7: Report of PCC-Expr — Data Link

![Graph showing network performance metrics]

- **Flow 1 Ingress** (mean 204.26 Mbit/s)
- **Flow 1 Egress** (mean 204.11 Mbit/s)
- **Flow 2 Ingress** (mean 52.43 Mbit/s)
- **Flow 2 Egress** (mean 52.37 Mbit/s)
- **Flow 3 Ingress** (mean 121.61 Mbit/s)
- **Flow 3 Egress** (mean 119.49 Mbit/s)

![Graph showing packet delay]

- **Flow 1 (95th percentile 110.77 ms)**
- **Flow 2 (95th percentile 67.92 ms)**
- **Flow 3 (95th percentile 70.33 ms)**

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Run 8: Statistics of PCC-Expr

End at: 2018-07-11 17:56:22
Local clock offset: 0.01 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2018-07-11 21:20:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 225.12 Mbit/s
  95th percentile per-packet one-way delay: 235.444 ms
  Loss rate: 2.95%
-- Flow 1:
  Average throughput: 75.80 Mbit/s
  95th percentile per-packet one-way delay: 194.877 ms
  Loss rate: 2.17%
-- Flow 2:
  Average throughput: 216.50 Mbit/s
  95th percentile per-packet one-way delay: 250.901 ms
  Loss rate: 3.28%
-- Flow 3:
  Average throughput: 17.16 Mbit/s
  95th percentile per-packet one-way delay: 195.592 ms
  Loss rate: 4.85%
Run 8: Report of PCC-Expr — Data Link

---

Throughput (Mbps)

Time (s)

---

Per-packet one-way delay (ms)

Time (s)

---

Flow 1 (95th percentile 194.88 ms)  Flow 2 (95th percentile 250.90 ms)  Flow 3 (95th percentile 195.59 ms)
Run 9: Statistics of PCC-Expr

Local clock offset: -0.034 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-07-11 21:28:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 318.77 Mbit/s
  95th percentile per-packet one-way delay: 286.778 ms
  Loss rate: 16.21%
-- Flow 1:
  Average throughput: 230.47 Mbit/s
  95th percentile per-packet one-way delay: 293.483 ms
  Loss rate: 17.92%
-- Flow 2:
  Average throughput: 114.07 Mbit/s
  95th percentile per-packet one-way delay: 195.925 ms
  Loss rate: 10.84%
-- Flow 3:
  Average throughput: 38.43 Mbit/s
  95th percentile per-packet one-way delay: 194.920 ms
  Loss rate: 14.72%
Run 9: Report of PCC-Expr — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 279.58 Mbit/s)
  - Flow 2 ingress (mean 127.11 Mbit/s)
  - Flow 3 ingress (mean 44.48 Mbit/s)
  - Flow 1 egress (mean 230.47 Mbit/s)
  - Flow 2 egress (mean 114.07 Mbit/s)
  - Flow 3 egress (mean 38.43 Mbit/s)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 293.48 ms)
  - Flow 2 (95th percentile 195.93 ms)
  - Flow 3 (95th percentile 194.92 ms)
Run 10: Statistics of PCC-Expr

Start at: 2018-07-11 18:45:46
End at: 2018-07-11 18:46:16
Local clock offset: -0.048 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2018-07-11 21:28:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.38 Mbit/s
95th percentile per-packet one-way delay: 237.709 ms
Loss rate: 4.07%
-- Flow 1:
Average throughput: 152.51 Mbit/s
95th percentile per-packet one-way delay: 242.909 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 78.77 Mbit/s
95th percentile per-packet one-way delay: 189.463 ms
Loss rate: 5.07%
-- Flow 3:
Average throughput: 105.69 Mbit/s
95th percentile per-packet one-way delay: 191.270 ms
Loss rate: 7.48%
Run 10: Report of PCC-Expr — Data Link

![Graph of throughput over time with different flow rates and delays.]

- **Flow 1 ingress (mean 156.44 Mbit/s)**
- **Flow 1 egress (mean 152.51 Mbit/s)**
- **Flow 2 ingress (mean 82.46 Mbit/s)**
- **Flow 2 egress (mean 78.77 Mbit/s)**
- **Flow 3 ingress (mean 112.74 Mbit/s)**
- **Flow 3 egress (mean 106.69 Mbit/s)**

![Graph of per-packet one-way delay over time with different flow rates and delays.]

- **Flow 1 (95th percentile 242.91 ms)**
- **Flow 2 (95th percentile 189.46 ms)**
- **Flow 3 (95th percentile 191.27 ms)**
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-11 14:52:54
End at: 2018-07-11 14:53:24
Local clock offset: 0.004 ms
Remote clock offset: 0.067 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.30 Mbit/s
95th percentile per-packet one-way delay: 61.173 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 46.22 Mbit/s
95th percentile per-packet one-way delay: 61.018 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 31.69 Mbit/s
95th percentile per-packet one-way delay: 61.315 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 20.41 Mbit/s
95th percentile per-packet one-way delay: 60.963 ms
Loss rate: 0.50%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-11 15:17:47  
End at: 2018-07-11 15:18:17  
Local clock offset: 0.031 ms  
Remote clock offset: 0.067 ms  

# Below is generated by plot.py at 2018-07-11 21:28:54  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 74.88 Mbit/s  
  95th percentile per-packet one-way delay: 66.655 ms  
  Loss rate: 1.42%  
-- Flow 1:  
  Average throughput: 44.49 Mbit/s  
  95th percentile per-packet one-way delay: 66.482 ms  
  Loss rate: 0.66%  
-- Flow 2:  
  Average throughput: 35.59 Mbit/s  
  95th percentile per-packet one-way delay: 66.715 ms  
  Loss rate: 1.11%  
-- Flow 3:  
  Average throughput: 20.57 Mbit/s  
  95th percentile per-packet one-way delay: 61.035 ms  
  Loss rate: 7.20%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-11 15:43:01
End at: 2018-07-11 15:43:31
Local clock offset: 0.03 ms
Remote clock offset: -0.328 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.01 Mbit/s
95th percentile per-packet one-way delay: 67.028 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 45.24 Mbit/s
95th percentile per-packet one-way delay: 61.574 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 67.079 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 17.63 Mbit/s
95th percentile per-packet one-way delay: 66.997 ms
Loss rate: 0.04%
Run 3: Report of QUIC Cubic — Data Link

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

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

Start at: 2018-07-11 16:08:06
End at: 2018-07-11 16:08:36
Local clock offset: -0.014 ms
Remote clock offset: -0.25 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 61.689 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 43.79 Mbit/s
95th percentile per-packet one-way delay: 61.530 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 39.50 Mbit/s
95th percentile per-packet one-way delay: 66.662 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 21.14 Mbit/s
95th percentile per-packet one-way delay: 61.324 ms
Loss rate: 0.71%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-11 16:33:05
End at: 2018-07-11 16:33:35
Local clock offset: -0.029 ms
Remote clock offset: 0.33 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 60.774 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 50.25 Mbit/s
95th percentile per-packet one-way delay: 60.948 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 33.69 Mbit/s
95th percentile per-packet one-way delay: 60.704 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 17.07 Mbit/s
95th percentile per-packet one-way delay: 60.774 ms
Loss rate: 8.14%
Run 5: Report of QUIC Cubic — Data Link

---

**Throughput (Mbps):**

- Flow 1 ingress (mean 50.35 Mbit/s)
- Flow 2 ingress (mean 33.93 Mbit/s)
- Flow 3 ingress (mean 18.36 Mbit/s)
- Flow 1 egress (mean 50.25 Mbit/s)
- Flow 2 egress (mean 33.69 Mbit/s)
- Flow 3 egress (mean 17.07 Mbit/s)

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

- Flow 1 (95th percentile 60.95 ms)
- Flow 2 (95th percentile 60.70 ms)
- Flow 3 (95th percentile 60.77 ms)
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-11 16:58:29  
End at: 2018-07-11 16:58:59  
Local clock offset: 0.007 ms  
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-11 21:28:54  
# Datalink statistics

-- Total of 3 flows:
Average throughput: 72.55 Mbit/s  
95th percentile per-packet one-way delay: 61.065 ms  
Loss rate: 0.88%

-- Flow 1:
Average throughput: 44.32 Mbit/s  
95th percentile per-packet one-way delay: 61.001 ms  
Loss rate: 0.68%

-- Flow 2:
Average throughput: 34.13 Mbit/s  
95th percentile per-packet one-way delay: 61.051 ms  
Loss rate: 1.32%

-- Flow 3:
Average throughput: 17.02 Mbit/s  
95th percentile per-packet one-way delay: 61.162 ms  
Loss rate: 0.56%
Run 6: Report of QUIC Cubic — Data Link

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

- **Flow 1**: Ingress (mean 44.45 Mbit/s), Egress (mean 44.32 Mbit/s)
- **Flow 2**: Ingress (mean 34.38 Mbit/s), Egress (mean 34.13 Mbit/s)
- **Flow 3**: Ingress (mean 16.00 Mbit/s), Egress (mean 17.02 Mbit/s)

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

- **Flow 1**: 95th percentile 61.00 ms
- **Flow 2**: 95th percentile 61.05 ms
- **Flow 3**: 95th percentile 61.16 ms
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-11 17:24:06
End at: 2018-07-11 17:24:36
Local clock offset: -0.034 ms
Remote clock offset: -0.196 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 73.34 Mbit/s
  95th percentile per-packet one-way delay: 61.649 ms
  Loss rate: 1.21%
-- Flow 1:
  Average throughput: 45.04 Mbit/s
  95th percentile per-packet one-way delay: 61.610 ms
  Loss rate: 0.56%
-- Flow 2:
  Average throughput: 33.13 Mbit/s
  95th percentile per-packet one-way delay: 61.741 ms
  Loss rate: 1.56%
-- Flow 3:
  Average throughput: 19.23 Mbit/s
  95th percentile per-packet one-way delay: 61.329 ms
  Loss rate: 4.48%
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-11 17:49:27
End at: 2018-07-11 17:49:57
Local clock offset: 0.012 ms
Remote clock offset: -0.415 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.79 Mbit/s
95th percentile per-packet one-way delay: 67.558 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 45.35 Mbit/s
95th percentile per-packet one-way delay: 67.208 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 36.34 Mbit/s
95th percentile per-packet one-way delay: 67.063 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 16.17 Mbit/s
95th percentile per-packet one-way delay: 68.165 ms
Loss rate: 0.34%
Run 8: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 45.45 Mbit/s)
- Flow 1 egress (mean 45.35 Mbit/s)
- Flow 2 ingress (mean 36.62 Mbit/s)
- Flow 2 egress (mean 36.34 Mbit/s)
- Flow 3 ingress (mean 16.01 Mbit/s)
- Flow 3 egress (mean 16.17 Mbit/s)

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

- Flow 1 (95th percentile 67.21 ms)
- Flow 2 (95th percentile 67.06 ms)
- Flow 3 (95th percentile 68.17 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-11 18:14:17
End at: 2018-07-11 18:14:47
Local clock offset: -0.019 ms
Remote clock offset: 0.053 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.22 Mbit/s
95th percentile per-packet one-way delay: 66.804 ms
Loss rate: 0.93%

-- Flow 1:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 66.863 ms
Loss rate: 0.79%

-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 61.042 ms
Loss rate: 1.18%

-- Flow 3:
Average throughput: 15.68 Mbit/s
95th percentile per-packet one-way delay: 61.032 ms
Loss rate: 0.76%
Run 10: Statistics of QUIC Cubic

End at: 2018-07-11 18:39:44
Local clock offset: -0.028 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 67.43 Mbit/s
  95th percentile per-packet one-way delay: 61.494 ms
  Loss rate: 0.80%
-- Flow 1:
  Average throughput: 41.42 Mbit/s
  95th percentile per-packet one-way delay: 61.540 ms
  Loss rate: 0.67%
-- Flow 2:
  Average throughput: 31.52 Mbit/s
  95th percentile per-packet one-way delay: 61.242 ms
  Loss rate: 1.05%
-- Flow 3:
  Average throughput: 15.56 Mbit/s
  95th percentile per-packet one-way delay: 62.077 ms
  Loss rate: 0.76%
Run 10: Report of QUIC Cubic — Data Link

![Graph 1: Throughput vs Time]
- Blue dashed line: Flow 1 ingress (mean 41.53 Mbit/s)
- Blue solid line: Flow 1 egress (mean 41.42 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 31.65 Mbit/s)
- Green solid line: Flow 2 egress (mean 31.52 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 15.49 Mbit/s)
- Red solid line: Flow 3 egress (mean 15.56 Mbit/s)

![Graph 2: Per-packet end-to-end delay vs Time]
- Blue circle: Flow 1 (95th percentile 61.54 ms)
- Green square: Flow 2 (95th percentile 61.24 ms)
- Red triangle: Flow 3 (95th percentile 62.08 ms)
Run 1: Statistics of SCReAM

Start at: 2018-07-11 14:51:45
End at: 2018-07-11 14:52:15
Local clock offset: 0.028 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 67.095 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.396 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.265 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.224 ms
Loss rate: 1.08%
Run 1: Report of SCReAM — Data Link

Throughput (Mbit/s)

Time (s)

Throughput (Mbit/s)

Time (s)

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)

Per packet one way delay (ms)

Time (s)
Run 2: Statistics of SCReAM

Start at: 2018-07-11 15:16:38
End at: 2018-07-11 15:17:08
Local clock offset: 0.044 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 66.730 ms
  Loss rate: 0.70%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 66.766 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 66.620 ms
  Loss rate: 0.82%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.223 ms
  Loss rate: 1.45%
Run 2: Report of SCReAM — Data Link
Run 3: Statistics of SCReAM

Start at: 2018-07-11 15:41:52
Local clock offset: 0.035 ms
Remote clock offset: 0.08 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 66.743 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 66.770 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.249 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.226 ms
  Loss rate: 1.08%
Run 3: Report of SCReAM — Data Link

![Graph showing data link throughput and packet loss](image)

- **Throughput (Mbps)**: The graph plots the throughput of data link as a function of time (s). The lines represent different flows with their respective ingress and egress rates, all approximated to 0.22 Mbps.

- **Per-packet one-way delay (ms)**: The second graph illustrates the per-packet one-way delay over time. The data points indicate minimal variation, with the 95th percentile delay for Flow 1 at 66.77 ms, for Flow 2 at 61.25 ms, and for Flow 3 at 61.23 ms.
Run 4: Statistics of SCReAM

Start at: 2018-07-11 16:06:57
End at: 2018-07-11 16:07:27
Local clock offset: 0.014 ms
Remote clock offset: -0.21 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 66.854 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 66.876 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 66.790 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.273 ms
  Loss rate: 1.08%
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 66.88 ms)
Flow 2 (95th percentile 66.79 ms)
Flow 3 (95th percentile 61.27 ms)
Run 5: Statistics of SCReAM

Start at: 2018-07-11 16:31:56
End at: 2018-07-11 16:32:26
Local clock offset: 0.003 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 61.602 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.590 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.660 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.181 ms
Loss rate: 1.08%
Run 5: Report of SCReAM — Data Link

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

Throughput (Mbps) vs. Time (s)

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

Round-trip delay (ms) vs. Time (s)

Flow 1 (95th percentile 61.59 ms)
Flow 2 (95th percentile 61.66 ms)
Flow 3 (95th percentile 61.18 ms)
Run 6: Statistics of SCReAM

Start at: 2018-07-11 16:57:20
End at: 2018-07-11 16:57:50
Local clock offset: 0.017 ms
Remote clock offset: -1.238 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 68.008 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.496 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.781 ms
  Loss rate: 0.82%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 68.058 ms
  Loss rate: 1.10%
Run 6: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

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

Time (s)

Flow 1 (95th percentile 62.50 ms)
Flow 2 (95th percentile 62.78 ms)
Flow 3 (95th percentile 68.06 ms)

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Run 7: Statistics of SCReAM

Local clock offset: -0.022 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 66.861 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.915 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.892 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.408 ms
Loss rate: 1.08%
Run 7: Report of SCReAM — Data Link

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

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

![Graph 2: Ping vs Time (ms)](image2)

- **Flow 1 (95th percentile 61.91 ms)**
- **Flow 2 (95th percentile 66.89 ms)**
- **Flow 3 (95th percentile 61.41 ms)**
Run 8: Statistics of SCReAM

Start at: 2018-07-11 17:48:18
Local clock offset: -0.007 ms
Remote clock offset: 1.014 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 65.757 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.796 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.277 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.168 ms
Loss rate: 1.08%
Run 8: Report of SCReAM — Data Link

![Graph showing throughput and per-packet max delay over time for different flows.]
Run 9: Statistics of SCReAM

Start at: 2018-07-11 18:13:08
End at: 2018-07-11 18:13:38
Local clock offset: -0.008 ms
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 67.202 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 67.235 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.381 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 67.167 ms
  Loss rate: 1.45%
Run 9: Report of SCReAM — Data Link

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

Graph 2: Per-packet one-way delay (ms)
- Flow 1 (95th percentile 67.23 ms)
- Flow 2 (95th percentile 61.38 ms)
- Flow 3 (95th percentile 67.17 ms)
Run 10: Statistics of SCReAM

Start at: 2018-07-11 18:38:05
End at: 2018-07-11 18:38:35
Local clock offset: -0.043 ms
Remote clock offset: -0.382 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 0.44 Mbit/s
 95th percentile per-packet one-way delay: 67.393 ms
 Loss rate: 0.58%
-- Flow 1:
 Average throughput: 0.22 Mbit/s
 95th percentile per-packet one-way delay: 67.465 ms
 Loss rate: 0.38%
-- Flow 2:
 Average throughput: 0.22 Mbit/s
 95th percentile per-packet one-way delay: 67.207 ms
 Loss rate: 0.61%
-- Flow 3:
 Average throughput: 0.22 Mbit/s
 95th percentile per-packet one-way delay: 67.301 ms
 Loss rate: 1.10%
Run 10: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

Start at: 2018-07-11 14:35:57
End at: 2018-07-11 14:36:27
Local clock offset: -0.009 ms
Remote clock offset: -0.199 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 61.727 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 61.552 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 61.489 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 61.944 ms
Loss rate: 0.17%
Run 1: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 0.71 Mbit/s)
- Flow 1 egress (mean 0.71 Mbit/s)
- Flow 2 ingress (mean 0.59 Mbit/s)
- Flow 2 egress (mean 0.59 Mbit/s)
- Flow 3 ingress (mean 2.74 Mbit/s)
- Flow 3 egress (mean 2.78 Mbit/s)

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

- Flow 1 (95th percentile 61.55 ms)
- Flow 2 (95th percentile 61.49 ms)
- Flow 3 (95th percentile 61.94 ms)
Run 2: Statistics of Sprout

Start at: 2018-07-11 15:00:57
End at: 2018-07-11 15:01:27
Local clock offset: 0.043 ms
Remote clock offset: -1.35 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.54 Mbit/s
  95th percentile per-packet one-way delay: 63.360 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 1.36 Mbit/s
  95th percentile per-packet one-way delay: 68.020 ms
  Loss rate: 0.11%
-- Flow 2:
  Average throughput: 1.33 Mbit/s
  95th percentile per-packet one-way delay: 62.914 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 0.90 Mbit/s
  95th percentile per-packet one-way delay: 62.709 ms
  Loss rate: 0.02%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

End at: 2018-07-11 15:26:27 
Local clock offset: 0.062 ms  
Remote clock offset: -0.039 ms 

# Below is generated by plot.py at 2018-07-11 21:28:54 
# Datalink statistics 
-- Total of 3 flows: 
Average throughput: 1.15 Mbit/s  
95th percentile per-packet one-way delay: 67.173 ms  
Loss rate: 0.24%  
-- Flow 1: 
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 67.053 ms  
Loss rate: 0.18%  
-- Flow 2: 
Average throughput: 0.66 Mbit/s 
95th percentile per-packet one-way delay: 67.224 ms  
Loss rate: 0.19%  
-- Flow 3: 
Average throughput: 0.85 Mbit/s 
95th percentile per-packet one-way delay: 67.387 ms  
Loss rate: 0.43%
Run 3: Report of Sprout — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.44 Mbit/s)  Flow 1 egress (mean 0.44 Mbit/s)
Flow 2 ingress (mean 0.65 Mbit/s)  Flow 2 egress (mean 0.66 Mbit/s)
Flow 3 ingress (mean 0.85 Mbit/s)  Flow 3 egress (mean 0.85 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 67.05 ms)  Flow 2 (95th percentile 67.22 ms)  Flow 3 (95th percentile 67.39 ms)
Run 4: Statistics of Sprout

Start at: 2018-07-11 15:51:00
End at: 2018-07-11 15:51:30
Local clock offset: 0.054 ms
Remote clock offset: 1.351 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 65.909 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 65.517 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 65.822 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 66.083 ms
Loss rate: 0.29%
Run 4: Report of Sprout — Data Link

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

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Run 5: Statistics of Sprout

Start at: 2018-07-11 16:16:09
End at: 2018-07-11 16:16:39
Local clock offset: 0.048 ms
Remote clock offset: 1.361 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 60.499 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 60.309 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 60.147 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 65.674 ms
Loss rate: 0.61%
Run 5: Report of Sprout — Data Link

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

- **Throughput**:
  - Flow 1 ingress (mean 1.85 Mbit/s)
  - Flow 2 ingress (mean 1.20 Mbit/s)
  - Flow 3 ingress (mean 0.42 Mbit/s)
  - Flow 1 egress (mean 1.85 Mbit/s)
  - Flow 2 egress (mean 1.21 Mbit/s)
  - Flow 3 egress (mean 0.42 Mbit/s)

- **Per packet one way delay (ms)**:
  - Flow 1 (95th percentile 60.31 ms)
  - Flow 2 (95th percentile 60.15 ms)
  - Flow 3 (95th percentile 65.67 ms)
Run 6: Statistics of Sprout

Start at: 2018-07-11 16:41:17
End at: 2018-07-11 16:41:47
Local clock offset: -0.008 ms
Remote clock offset: 0.146 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.36 Mbit/s
  95th percentile per-packet one-way delay: 61.719 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 2.38 Mbit/s
  95th percentile per-packet one-way delay: 61.581 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 1.20 Mbit/s
  95th percentile per-packet one-way delay: 66.680 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 0.57 Mbit/s
  95th percentile per-packet one-way delay: 61.215 ms
  Loss rate: 0.24%
Run 6: Report of Sprout — Data Link
Run 7: Statistics of Sprout

Start at: 2018-07-11 17:06:48
End at: 2018-07-11 17:07:18
Local clock offset: 0.011 ms
Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 61.902 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 61.485 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 61.598 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 62.069 ms
Loss rate: 0.41%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Start at: 2018-07-11 17:32:29
End at: 2018-07-11 17:32:59
Local clock offset: -0.033 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.73 Mbit/s
  95th percentile per-packet one-way delay: 61.660 ms
  Loss rate: 0.36%
-- Flow 1:
  Average throughput: 0.79 Mbit/s
  95th percentile per-packet one-way delay: 61.367 ms
  Loss rate: 0.24%
-- Flow 2:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 67.081 ms
  Loss rate: 0.20%
-- Flow 3:
  Average throughput: 1.67 Mbit/s
  95th percentile per-packet one-way delay: 61.525 ms
  Loss rate: 0.63%
Run 8: Report of Sprout — Data Link

Throughput (Mbps/s)

Time (s)

Flow 1 ingress (mean 0.78 Mbps/s)  Flow 1 egress (mean 0.79 Mbps/s)
Flow 2 ingress (mean 0.69 Mbps/s)  Flow 2 egress (mean 0.60 Mbps/s)
Flow 3 ingress (mean 1.66 Mbps/s)  Flow 3 egress (mean 1.67 Mbps/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 61.37 ms)  Flow 2 (95th percentile 67.08 ms)  Flow 3 (95th percentile 61.52 ms)
Run 9: Statistics of Sprout

Start at: 2018-07-11 17:57:21
End at: 2018-07-11 17:57:51
Local clock offset: -0.0 ms
Remote clock offset: -0.194 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 67.390 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 67.263 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 67.604 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 66.980 ms
Loss rate: 2.34%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

End at: 2018-07-11 18:23:01
Local clock offset: -0.028 ms
Remote clock offset: -0.268 ms

# Below is generated by plot.py at 2018-07-11 21:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 67.405 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 66.992 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 67.508 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 67.125 ms
Loss rate: 0.55%
Run 10: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

End at: 2018-07-11 14:40:07
Local clock offset: 0.05 ms
Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2018-07-11 21:30:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 212.89 Mbit/s
  95th percentile per-packet one-way delay: 66.458 ms
  Loss rate: 0.38%
-- Flow 1:
  Average throughput: 73.63 Mbit/s
  95th percentile per-packet one-way delay: 66.913 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 119.96 Mbit/s
  95th percentile per-packet one-way delay: 63.651 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 180.67 Mbit/s
  95th percentile per-packet one-way delay: 68.175 ms
  Loss rate: 0.72%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-11 15:04:38
End at: 2018-07-11 15:05:08
Local clock offset: -0.001 ms
Remote clock offset: 1.453 ms

# Below is generated by plot.py at 2018-07-11 21:30:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.31 Mbit/s
95th percentile per-packet one-way delay: 66.218 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 93.65 Mbit/s
95th percentile per-packet one-way delay: 66.397 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 19.15 Mbit/s
95th percentile per-packet one-way delay: 66.288 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 24.04 Mbit/s
95th percentile per-packet one-way delay: 65.758 ms
Loss rate: 0.71%
Run 2: Report of TaoVA-100x — Data Link

![Graph of Throughput (Mbps)]

- Flow 1 ingress (mean 94.40 Mbit/s)
- Flow 1 egress (mean 93.65 Mbit/s)
- Flow 2 ingress (mean 19.12 Mbit/s)
- Flow 2 egress (mean 19.15 Mbit/s)
- Flow 3 ingress (mean 23.88 Mbit/s)
- Flow 3 egress (mean 24.04 Mbit/s)

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

- Flow 1 (95th percentile 66.40 ms)
- Flow 2 (95th percentile 66.29 ms)
- Flow 3 (95th percentile 65.76 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-11 15:29:42
End at: 2018-07-11 15:30:12
Local clock offset: 0.074 ms
Remote clock offset: 0.117 ms

# Below is generated by plot.py at 2018-07-11 21:31:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.61 Mbit/s
95th percentile per-packet one-way delay: 69.545 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 149.72 Mbit/s
95th percentile per-packet one-way delay: 68.967 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 65.17 Mbit/s
95th percentile per-packet one-way delay: 66.989 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 192.87 Mbit/s
95th percentile per-packet one-way delay: 73.897 ms
Loss rate: 1.15%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-11 15:54:45
Local clock offset: 0.062 ms
Remote clock offset: 0.083 ms

# Below is generated by plot.py at 2018-07-11 21:31:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.74 Mbit/s
95th percentile per-packet one-way delay: 69.055 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 23.90 Mbit/s
95th percentile per-packet one-way delay: 67.068 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 215.84 Mbit/s
95th percentile per-packet one-way delay: 70.270 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 186.42 Mbit/s
95th percentile per-packet one-way delay: 68.731 ms
Loss rate: 0.93%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-11 16:19:52
End at: 2018-07-11 16:20:22
Local clock offset: 0.056 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-07-11 21:32:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 272.54 Mbit/s
  95th percentile per-packet one-way delay: 68.214 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 199.45 Mbit/s
  95th percentile per-packet one-way delay: 68.755 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 13.82 Mbit/s
  95th percentile per-packet one-way delay: 67.686 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 193.77 Mbit/s
  95th percentile per-packet one-way delay: 67.456 ms
  Loss rate: 1.34%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-11 16:45:03
End at: 2018-07-11 16:45:33
Local clock offset: -0.008 ms
Remote clock offset: -0.273 ms

# Below is generated by plot.py at 2018-07-11 21:34:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.23 Mbit/s
95th percentile per-packet one-way delay: 68.875 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 167.83 Mbit/s
95th percentile per-packet one-way delay: 68.149 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 139.41 Mbit/s
95th percentile per-packet one-way delay: 65.826 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 196.56 Mbit/s
95th percentile per-packet one-way delay: 74.045 ms
Loss rate: 1.46%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-11 17:10:30
End at: 2018-07-11 17:11:00
Local clock offset: -0.026 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2018-07-11 21:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.23 Mbit/s
95th percentile per-packet one-way delay: 71.433 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 196.91 Mbit/s
95th percentile per-packet one-way delay: 68.784 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 150.02 Mbit/s
95th percentile per-packet one-way delay: 72.390 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 147.42 Mbit/s
95th percentile per-packet one-way delay: 75.506 ms
Loss rate: 1.88%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-11 17:36:07  
End at: 2018-07-11 17:36:37  
Local clock offset: -0.031 ms  
Remote clock offset: -1.274 ms

# Below is generated by plot.py at 2018-07-11 21:39:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 190.72 Mbit/s  
95th percentile per-packet one-way delay: 69.002 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 220.10 Mbit/s  
95th percentile per-packet one-way delay: 68.540 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 19.15 Mbit/s  
95th percentile per-packet one-way delay: 70.145 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 32.33 Mbit/s  
95th percentile per-packet one-way delay: 73.123 ms  
Loss rate: 1.61%
Run 8: Report of TaoVA-100x — Data Link

![Graph](image1)

![Graph](image2)

Flow 1 ingress (mean 220.15 Mbit/s)  Flow 1 egress (mean 220.10 Mbit/s)
Flow 2 ingress (mean 19.11 Mbit/s)  Flow 2 egress (mean 19.15 Mbit/s)
Flow 3 ingress (mean 32.37 Mbit/s)  Flow 3 egress (mean 32.33 Mbit/s)

Flow 1 (95th percentile 68.54 ms)  Flow 2 (95th percentile 70.14 ms)  Flow 3 (95th percentile 73.12 ms)
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-11 18:01:03
End at: 2018-07-11 18:01:33
Local clock offset: -0.03 ms
Remote clock offset: -0.176 ms

# Below is generated by plot.py at 2018-07-11 21:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.94 Mbit/s
95th percentile per-packet one-way delay: 67.543 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 197.61 Mbit/s
95th percentile per-packet one-way delay: 66.763 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 124.39 Mbit/s
95th percentile per-packet one-way delay: 69.636 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 147.72 Mbit/s
95th percentile per-packet one-way delay: 67.701 ms
Loss rate: 0.00%
Run 9: Report of TaoVA-100x — Data Link

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

Throughput (Mbps):
- Flow 1 ingress (mean 197.71 Mbps)
- Flow 1 egress (mean 197.61 Mbps)
- Flow 2 ingress (mean 124.82 Mbps)
- Flow 2 egress (mean 124.39 Mbps)
- Flow 3 ingress (mean 147.81 Mbps)
- Flow 3 egress (mean 147.72 Mbps)

Packet size (ms):
- Flow 1 (95th percentile 66.76 ms)
- Flow 2 (95th percentile 69.64 ms)
- Flow 3 (95th percentile 67.70 ms)
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-11 18:26:14
End at: 2018-07-11 18:26:44
Local clock offset: 0.045 ms
Remote clock offset: -0.462 ms

# Below is generated by plot.py at 2018-07-11 21:39:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 217.58 Mbit/s
  95th percentile per-packet one-way delay: 69.372 ms
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 36.11 Mbit/s
  95th percentile per-packet one-way delay: 68.483 ms
  Loss rate: 1.40%
-- Flow 2:
  Average throughput: 202.83 Mbit/s
  95th percentile per-packet one-way delay: 70.417 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 141.50 Mbit/s
  95th percentile per-packet one-way delay: 67.578 ms
  Loss rate: 1.17%
Run 10: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 36.48 Mbit/s)
- Flow 1 egress (mean 36.11 Mbit/s)
- Flow 2 ingress (mean 202.89 Mbit/s)
- Flow 2 egress (mean 202.83 Mbit/s)
- Flow 3 ingress (mean 141.44 Mbit/s)
- Flow 3 egress (mean 141.50 Mbit/s)
Run 1: Statistics of TCP Vegas

Start at: 2018-07-11 14:38:17
End at: 2018-07-11 14:38:47
Local clock offset: -0.015 ms
Remote clock offset: -1.399 ms

# Below is generated by plot.py at 2018-07-11 21:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.65 Mbit/s
95th percentile per-packet one-way delay: 73.227 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 179.05 Mbit/s
95th percentile per-packet one-way delay: 73.432 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 24.55 Mbit/s
95th percentile per-packet one-way delay: 70.294 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 70.685 ms
Loss rate: 2.55%
Run 1: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 178.56 Mbit/s)**
- **Flow 1 egress (mean 179.05 Mbit/s)**
- **Flow 2 ingress (mean 24.60 Mbit/s)**
- **Flow 2 egress (mean 24.55 Mbit/s)**
- **Flow 3 ingress (mean 4.11 Mbit/s)**
- **Flow 3 egress (mean 4.06 Mbit/s)**

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

- **Flow 1 (95th percentile 73.43 ms)**
- **Flow 2 (95th percentile 70.29 ms)**
- **Flow 3 (95th percentile 70.69 ms)**

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Run 2: Statistics of TCP Vegas

Start at: 2018-07-11 15:03:17
End at: 2018-07-11 15:03:47
Local clock offset: 0.042 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-07-11 21:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 204.02 Mbit/s
95th percentile per-packet one-way delay: 76.677 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 185.60 Mbit/s
95th percentile per-packet one-way delay: 76.894 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 70.877 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 46.13 Mbit/s
95th percentile per-packet one-way delay: 75.188 ms
Loss rate: 1.19%
Run 3: Statistics of TCP Vegas

Local clock offset: 0.018 ms
Remote clock offset: 0.004 ms

# Below is generated by plot.py at 2018-07-11 21:39:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.35 Mbit/s
95th percentile per-packet one-way delay: 73.911 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 187.38 Mbit/s
95th percentile per-packet one-way delay: 73.574 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 182.09 Mbit/s
95th percentile per-packet one-way delay: 74.808 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 69.313 ms
Loss rate: 2.60%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

End at: 2018-07-11 15:53:51
Local clock offset: 0.027 ms
Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-07-11 21:39:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 264.34 Mbit/s
  95th percentile per-packet one-way delay: 72.876 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 109.61 Mbit/s
  95th percentile per-packet one-way delay: 68.154 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 184.02 Mbit/s
  95th percentile per-packet one-way delay: 75.568 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 98.50 Mbit/s
  95th percentile per-packet one-way delay: 70.664 ms
  Loss rate: 1.35%
Run 4: Report of TCP Vegas — Data Link

![Throughput and Per-packet one way delay graphs]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 109.70 Mbps)
Flow 1 egress (mean 109.61 Mbps)
Flow 2 ingress (mean 184.16 Mbps)
Flow 2 egress (mean 184.02 Mbps)
Flow 3 ingress (mean 98.62 Mbps)
Flow 3 egress (mean 98.50 Mbps)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 68.15 ms)
Flow 2 (95th percentile 75.57 ms)
Flow 3 (95th percentile 70.66 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-07-11 16:18:30
End at: 2018-07-11 16:19:00
Local clock offset: -0.006 ms
Remote clock offset: -0.453 ms

# Below is generated by plot.py at 2018-07-11 21:40:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.75 Mbit/s
95th percentile per-packet one-way delay: 74.997 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 52.97 Mbit/s
95th percentile per-packet one-way delay: 69.052 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 180.73 Mbit/s
95th percentile per-packet one-way delay: 75.692 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 172.77 Mbit/s
95th percentile per-packet one-way delay: 75.813 ms
Loss rate: 1.52%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-07-11 16:43:38
End at: 2018-07-11 16:44:08
Local clock offset: -0.002 ms
Remote clock offset: -1.411 ms

# Below is generated by plot.py at 2018-07-11 21:41:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.47 Mbit/s
95th percentile per-packet one-way delay: 75.528 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 186.28 Mbit/s
95th percentile per-packet one-way delay: 75.281 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 76.54 Mbit/s
95th percentile per-packet one-way delay: 71.987 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 174.00 Mbit/s
95th percentile per-packet one-way delay: 78.827 ms
Loss rate: 1.43%
Run 6: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 186.37 Mbps)
- Flow 1 egress (mean 186.28 Mbps)
- Flow 2 ingress (mean 76.57 Mbps)
- Flow 2 egress (mean 76.54 Mbps)
- Flow 3 ingress (mean 174.32 Mbps)
- Flow 3 egress (mean 174.00 Mbps)

![Graph 2: Packet Error Rate vs. Time (ms)]

- Flow 1 (95th percentile 75.28 ms)
- Flow 2 (95th percentile 71.99 ms)
- Flow 3 (95th percentile 78.83 ms)
Run 7: Statistics of TCP Vegas

Start at: 2018-07-11 17:09:09
End at: 2018-07-11 17:09:39
Local clock offset: -0.008 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-07-11 21:41:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.08 Mbit/s
95th percentile per-packet one-way delay: 72.046 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 187.62 Mbit/s
95th percentile per-packet one-way delay: 72.494 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 66.162 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 114.63 Mbit/s
95th percentile per-packet one-way delay: 67.645 ms
Loss rate: 1.36%
Run 7: Report of TCP Vegas — Data Link

![Graph of throughput over time](image1)

![Graph of per-packet one-way delay over time](image2)
Run 8: Statistics of TCP Vegas

Start at: 2018-07-11 17:34:50
End at: 2018-07-11 17:35:20
Local clock offset: 0.02 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2018-07-11 21:41:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 159.07 Mbit/s
  95th percentile per-packet one-way delay: 71.810 ms
  Loss rate: 0.79%
-- Flow 1:
  Average throughput: 74.12 Mbit/s
  95th percentile per-packet one-way delay: 68.482 ms
  Loss rate: 0.36%
-- Flow 2:
  Average throughput: 44.15 Mbit/s
  95th percentile per-packet one-way delay: 68.743 ms
  Loss rate: 0.54%
-- Flow 3:
  Average throughput: 168.77 Mbit/s
  95th percentile per-packet one-way delay: 75.315 ms
  Loss rate: 1.47%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-07-11 17:59:42
End at: 2018-07-11 18:00:12
Local clock offset: -0.007 ms
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2018-07-11 21:43:11
# Datalink statistics
    -- Total of 3 flows:
    Average throughput: 239.56 Mbit/s
    95th percentile per-packet one-way delay: 68.268 ms
    Loss rate: 0.55%
    -- Flow 1:
    Average throughput: 156.90 Mbit/s
    95th percentile per-packet one-way delay: 68.344 ms
    Loss rate: 0.46%
    -- Flow 2:
    Average throughput: 122.32 Mbit/s
    95th percentile per-packet one-way delay: 68.110 ms
    Loss rate: 0.69%
    -- Flow 3:
    Average throughput: 4.20 Mbit/s
    95th percentile per-packet one-way delay: 61.943 ms
    Loss rate: 2.53%
Run 9: Report of TCP Vegas — Data Link

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

- **Flow 1**: Ingress (mean 156.96 Mbit/s) and Egress (mean 156.90 Mbit/s)
- **Flow 2**: Ingress (mean 122.41 Mbit/s) and Egress (mean 122.32 Mbit/s)
- **Flow 3**: Ingress (mean 4.25 Mbit/s) and Egress (mean 4.20 Mbit/s)
Run 10: Statistics of TCP Vegas

Start at: 2018-07-11 18:24:52
End at: 2018-07-11 18:25:22
Local clock offset: -0.041 ms
Remote clock offset: -0.492 ms

# Below is generated by plot.py at 2018-07-11 21:43:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.85 Mbit/s
95th percentile per-packet one-way delay: 76.946 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 117.78 Mbit/s
95th percentile per-packet one-way delay: 71.786 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 179.04 Mbit/s
95th percentile per-packet one-way delay: 78.301 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 70.070 ms
Loss rate: 2.72%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

End at: 2018-07-11 14:49:09
Local clock offset: 0.034 ms
Remote clock offset: 1.219 ms

# Below is generated by plot.py at 2018-07-11 21:45:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 316.15 Mbit/s
  95th percentile per-packet one-way delay: 163.604 ms
  Loss rate: 2.28%
-- Flow 1:
  Average throughput: 173.78 Mbit/s
  95th percentile per-packet one-way delay: 177.569 ms
  Loss rate: 3.04%
-- Flow 2:
  Average throughput: 117.64 Mbit/s
  95th percentile per-packet one-way delay: 154.041 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 194.57 Mbit/s
  95th percentile per-packet one-way delay: 154.825 ms
  Loss rate: 2.14%
Run 1: Report of Verus — Data Link

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

- Flow 1 ingress (mean 178.88 Mbps)
- Flow 1 egress (mean 173.78 Mbps)
- Flow 2 ingress (mean 117.69 Mbps)
- Flow 2 egress (mean 117.64 Mbps)
- Flow 3 ingress (mean 196.24 Mbps)
- Flow 3 egress (mean 194.57 Mbps)

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

- Flow 1 (95th percentile 177.57 ms)
- Flow 2 (95th percentile 154.04 ms)
- Flow 3 (95th percentile 154.82 ms)
Run 2: Statistics of Verus

End at: 2018-07-11 15:14:01
Local clock offset: 0.058 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2018-07-11 21:46:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.92 Mbit/s
95th percentile per-packet one-way delay: 182.699 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 184.39 Mbit/s
95th percentile per-packet one-way delay: 183.941 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 164.59 Mbit/s
95th percentile per-packet one-way delay: 177.301 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 68.20 Mbit/s
95th percentile per-packet one-way delay: 198.234 ms
Loss rate: 0.14%
Run 2: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 187.79 Mbps)  Flow 1 egress (mean 184.39 Mbps)
Flow 2 ingress (mean 164.35 Mbps)  Flow 2 egress (mean 164.59 Mbps)
Flow 3 ingress (mean 66.54 Mbps)    Flow 3 egress (mean 68.20 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 183.94 ms)  Flow 2 (95th percentile 177.30 ms)  Flow 3 (95th percentile 198.23 ms)
Run 3: Statistics of Verus

Start at: 2018-07-11 15:38:44
Local clock offset: 0.062 ms
Remote clock offset: 0.359 ms

# Below is generated by plot.py at 2018-07-11 21:46:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.39 Mbit/s
95th percentile per-packet one-way delay: 259.051 ms
Loss rate: 4.37%
-- Flow 1:
Average throughput: 183.69 Mbit/s
95th percentile per-packet one-way delay: 194.373 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 184.95 Mbit/s
95th percentile per-packet one-way delay: 285.488 ms
Loss rate: 5.88%
-- Flow 3:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 176.659 ms
Loss rate: 2.63%
Run 4: Statistics of Verus

Start at: 2018-07-11 16:03:49
End at: 2018-07-11 16:04:19
Local clock offset: 0.03 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2018-07-11 21:46:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 327.49 Mbit/s
  95th percentile per-packet one-way delay: 267.216 ms
  Loss rate: 3.66%
-- Flow 1:
  Average throughput: 182.06 Mbit/s
  95th percentile per-packet one-way delay: 207.423 ms
  Loss rate: 3.23%
-- Flow 2:
  Average throughput: 176.35 Mbit/s
  95th percentile per-packet one-way delay: 290.722 ms
  Loss rate: 4.07%
-- Flow 3:
  Average throughput: 87.87 Mbit/s
  95th percentile per-packet one-way delay: 251.551 ms
  Loss rate: 4.68%
Run 4: Report of Verus — Data Link

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

[Legend for graph showing different flow characteristics]

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Run 5: Statistics of Verus

Start at: 2018-07-11 16:28:52
End at: 2018-07-11 16:29:22
Local clock offset: 0.075 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-07-11 21:46:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 249.55 Mbit/s
95th percentile per-packet one-way delay: 190.143 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 133.91 Mbit/s
95th percentile per-packet one-way delay: 177.135 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 136.58 Mbit/s
95th percentile per-packet one-way delay: 237.463 ms
Loss rate: 3.33%
-- Flow 3:
Average throughput: 77.88 Mbit/s
95th percentile per-packet one-way delay: 185.559 ms
Loss rate: 2.01%
Run 5: Report of Verus — Data Link

![Graph of throughput and packet delay over time for different flows.](image1)

![Graph of packet delay over time for different flows.](image2)
Run 6: Statistics of Verus

Start at: 2018-07-11 16:54:10
End at: 2018-07-11 16:54:40
Local clock offset: 0.009 ms
Remote clock offset: -0.195 ms

# Below is generated by plot.py at 2018-07-11 21:48:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.68 Mbit/s
95th percentile per-packet one-way delay: 168.470 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 200.13 Mbit/s
95th percentile per-packet one-way delay: 164.570 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 145.17 Mbit/s
95th percentile per-packet one-way delay: 255.115 ms
Loss rate: 2.80%
-- Flow 3:
Average throughput: 134.09 Mbit/s
95th percentile per-packet one-way delay: 149.912 ms
Loss rate: 0.53%
Run 6: Report of Verus — Data Link

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

- Flow 1 ingress (mean 200.41 Mbps)
- Flow 1 egress (mean 200.13 Mbps)
- Flow 2 ingress (mean 148.39 Mbps)
- Flow 2 egress (mean 145.17 Mbps)
- Flow 3 ingress (mean 133.01 Mbps)
- Flow 3 egress (mean 134.09 Mbps)

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

- Flow 1 (95th percentile 164.57 ms)
- Flow 2 (95th percentile 255.12 ms)
- Flow 3 (95th percentile 149.91 ms)
Run 7: Statistics of Verus

Start at: 2018-07-11 17:19:49
End at: 2018-07-11 17:20:19
Local clock offset: 0.028 ms
Remote clock offset: 0.135 ms

# Below is generated by plot.py at 2018-07-11 21:49:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.18 Mbit/s
95th percentile per-packet one-way delay: 169.973 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 210.32 Mbit/s
95th percentile per-packet one-way delay: 183.442 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 134.15 Mbit/s
95th percentile per-packet one-way delay: 166.196 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 96.73 Mbit/s
95th percentile per-packet one-way delay: 135.766 ms
Loss rate: 5.16%
Run 7: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 214.14 Mbit/s)
- Flow 1 egress (mean 210.32 Mbit/s)
- Flow 2 ingress (mean 134.66 Mbit/s)
- Flow 2 egress (mean 134.15 Mbit/s)
- Flow 3 ingress (mean 90.39 Mbit/s)
- Flow 3 egress (mean 96.73 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 183.44 ms)
- Flow 2 (95th percentile 166.20 ms)
- Flow 3 (95th percentile 135.77 ms)
Run 8: Statistics of Verus

Start at: 2018-07-11 17:45:06
End at: 2018-07-11 17:45:36
Local clock offset: -0.003 ms
Remote clock offset: 0.182 ms

# Below is generated by plot.py at 2018-07-11 21:51:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.69 Mbit/s
95th percentile per-packet one-way delay: 293.734 ms
Loss rate: 9.40%
-- Flow 1:
Average throughput: 214.16 Mbit/s
95th percentile per-packet one-way delay: 190.172 ms
Loss rate: 3.81%
-- Flow 2:
Average throughput: 130.19 Mbit/s
95th percentile per-packet one-way delay: 254.765 ms
Loss rate: 5.63%
-- Flow 3:
Average throughput: 164.59 Mbit/s
95th percentile per-packet one-way delay: 344.738 ms
Loss rate: 29.95%
Run 8: Report of Verus — Data Link

![Diagram of throughput and packet delay over time for different flows.](image)
Run 9: Statistics of Verus

Start at: 2018-07-11 18:09:58
End at: 2018-07-11 18:10:28
Local clock offset: -0.031 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-07-11 21:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.66 Mbit/s
95th percentile per-packet one-way delay: 170.780 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 205.55 Mbit/s
95th percentile per-packet one-way delay: 171.453 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 165.84 Mbit/s
95th percentile per-packet one-way delay: 158.445 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 104.77 Mbit/s
95th percentile per-packet one-way delay: 187.064 ms
Loss rate: 0.20%
Run 9: Report of Verus — Data Link

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

- Flow 1 ingress (mean 208.19 Mbps)
- Flow 1 egress (mean 205.55 Mbps)
- Flow 2 ingress (mean 166.55 Mbps)
- Flow 2 egress (mean 165.84 Mbps)
- Flow 3 ingress (mean 103.60 Mbps)
- Flow 3 egress (mean 104.77 Mbps)

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

- Flow 1 (95th percentile 171.45 ms)
- Flow 2 (95th percentile 158.44 ms)
- Flow 3 (95th percentile 157.06 ms)
Run 10: Statistics of Verus

Start at: 2018-07-11 18:35:00
End at: 2018-07-11 18:35:30
Local clock offset: -0.022 ms
Remote clock offset: -0.248 ms

# Below is generated by plot.py at 2018-07-11 21:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.21 Mbit/s
95th percentile per-packet one-way delay: 232.926 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 204.15 Mbit/s
95th percentile per-packet one-way delay: 238.722 ms
Loss rate: 2.78%
-- Flow 2:
Average throughput: 93.78 Mbit/s
95th percentile per-packet one-way delay: 170.622 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 211.778 ms
Loss rate: 4.63%
Run 10: Report of Verus — Data Link

![Throughput Graph]

![Delay Graph]

- Flow 1 ingress (mean 207.53 Mbit/s)
- Flow 1 egress (mean 204.15 Mbit/s)
- Flow 2 ingress (mean 94.67 Mbit/s)
- Flow 2 egress (mean 93.78 Mbit/s)
- Flow 3 ingress (mean 58.50 Mbit/s)
- Flow 3 egress (mean 56.25 Mbit/s)

- Flow 1 (95th percentile 238.72 ms)
- Flow 2 (95th percentile 170.62 ms)
- Flow 3 (95th percentile 211.78 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-11 14:54:06  
End at: 2018-07-11 14:54:37  
Local clock offset: -0.013 ms  
Remote clock offset: -0.288 ms

# Below is generated by plot.py at 2018-07-11 21:55:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 483.54 Mbit/s  
95th percentile per-packet one-way delay: 168.777 ms  
Loss rate: 0.95%  
-- Flow 1:  
Average throughput: 295.07 Mbit/s  
95th percentile per-packet one-way delay: 111.182 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 204.52 Mbit/s  
95th percentile per-packet one-way delay: 216.487 ms  
Loss rate: 1.86%  
-- Flow 3:  
Average throughput: 161.28 Mbit/s  
95th percentile per-packet one-way delay: 63.718 ms  
Loss rate: 1.82%
Run 1: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 294.89 Mbit/s)
- Flow 1 egress (mean 295.07 Mbit/s)
- Flow 2 ingress (mean 297.05 Mbit/s)
- Flow 2 egress (mean 204.52 Mbit/s)
- Flow 3 ingress (mean 162.13 Mbit/s)
- Flow 3 egress (mean 161.28 Mbit/s)

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

- Flow 1 (95th percentile 111.18 ms)
- Flow 2 (95th percentile 216.49 ms)
- Flow 3 (95th percentile 63.72 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-11 15:19:00
End at: 2018-07-11 15:19:30
Local clock offset: 0.032 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2018-07-11 21:58:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 560.20 Mbit/s
  95th percentile per-packet one-way delay: 75.552 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 313.76 Mbit/s
  95th percentile per-packet one-way delay: 87.550 ms
  Loss rate: 0.46%
-- Flow 2:
  Average throughput: 286.73 Mbit/s
  95th percentile per-packet one-way delay: 69.966 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 171.63 Mbit/s
  95th percentile per-packet one-way delay: 65.558 ms
  Loss rate: 1.68%
Run 2: Report of PCC-Vivace — Data Link
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-11 15:44:14
End at: 2018-07-11 15:44:44
Local clock offset: 0.068 ms
Remote clock offset: -1.358 ms

# Below is generated by plot.py at 2018-07-11 21:58:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 377.92 Mbit/s
  95th percentile per-packet one-way delay: 192.207 ms
  Loss rate: 1.80%
-- Flow 1:
  Average throughput: 230.28 Mbit/s
  95th percentile per-packet one-way delay: 140.739 ms
  Loss rate: 1.01%
-- Flow 2:
  Average throughput: 191.20 Mbit/s
  95th percentile per-packet one-way delay: 346.654 ms
  Loss rate: 3.04%
-- Flow 3:
  Average throughput: 63.40 Mbit/s
  95th percentile per-packet one-way delay: 62.720 ms
  Loss rate: 2.71%
Run 3: Report of PCC-Vivace — Data Link

![Throughput Graph](image1)

- **Flow 1 ingress** (mean 231.69 Mbit/s)
- **Flow 1 egress** (mean 230.28 Mbit/s)
- **Flow 2 ingress** (mean 195.98 Mbit/s)
- **Flow 2 egress** (mean 191.20 Mbit/s)
- **Flow 3 ingress** (mean 64.34 Mbit/s)
- **Flow 3 egress** (mean 63.40 Mbit/s)

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

- **Flow 1** (95th percentile 140.74 ms)
- **Flow 2** (95th percentile 346.65 ms)
- **Flow 3** (95th percentile 62.72 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-11 16:09:19
End at: 2018-07-11 16:09:49
Local clock offset: -0.021 ms
Remote clock offset: -0.416 ms

# Below is generated by plot.py at 2018-07-11 21:59:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.34 Mbit/s
95th percentile per-packet one-way delay: 148.874 ms
Loss rate: 1.36%
-- Flow 1:
  Average throughput: 266.78 Mbit/s
  95th percentile per-packet one-way delay: 142.214 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 279.66 Mbit/s
  95th percentile per-packet one-way delay: 130.886 ms
  Loss rate: 1.44%
-- Flow 3:
  Average throughput: 168.28 Mbit/s
  95th percentile per-packet one-way delay: 215.746 ms
  Loss rate: 4.11%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-11 16:34:19
End at: 2018-07-11 16:34:49
Local clock offset: 0.015 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-07-11 22:00:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 504.96 Mbit/s
  95th percentile per-packet one-way delay: 222.674 ms
  Loss rate: 1.25%
-- Flow 1:
  Average throughput: 267.21 Mbit/s
  95th percentile per-packet one-way delay: 232.210 ms
  Loss rate: 1.52%
-- Flow 2:
  Average throughput: 267.64 Mbit/s
  95th percentile per-packet one-way delay: 111.184 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 183.54 Mbit/s
  95th percentile per-packet one-way delay: 64.114 ms
  Loss rate: 1.66%
Run 5: Report of PCC-Vivace — Data Link

![Graph of Throughput vs Time](image1)

![Graph of Per-packet one way delay vs Time](image2)
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-11 16:59:42
End at: 2018-07-11 17:00:12
Local clock offset: 0.002 ms
Remote clock offset: 0.204 ms

# Below is generated by plot.py at 2018-07-11 22:01:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 490.54 Mbit/s
  95th percentile per-packet one-way delay: 110.919 ms
  Loss rate: 0.81%
-- Flow 1:
  Average throughput: 295.38 Mbit/s
  95th percentile per-packet one-way delay: 110.958 ms
  Loss rate: 0.79%
-- Flow 2:
  Average throughput: 275.34 Mbit/s
  95th percentile per-packet one-way delay: 116.583 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 38.48 Mbit/s
  95th percentile per-packet one-way delay: 61.318 ms
  Loss rate: 3.73%
Run 6: Report of PCC-Vivace — Data Link
Run 7: Statistics of PCC-Vivace

End at: 2018-07-11 17:25:50
Local clock offset: 0.02 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-07-11 22:01:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 463.53 Mbit/s
95th percentile per-packet one-way delay: 102.677 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 249.05 Mbit/s
95th percentile per-packet one-way delay: 77.143 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 225.15 Mbit/s
95th percentile per-packet one-way delay: 168.877 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 198.86 Mbit/s
95th percentile per-packet one-way delay: 66.343 ms
Loss rate: 1.96%
Run 7: Report of PCC-Vivace — Data Link

![Graph showing data link performance for Run 7. The graphs depict throughput and per-packet one-way delay metrics over time.](image-url)
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-11 17:50:41
End at: 2018-07-11 17:51:11
Local clock offset: -0.02 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2018-07-11 22:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 468.82 Mbit/s
95th percentile per-packet one-way delay: 70.044 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 317.24 Mbit/s
95th percentile per-packet one-way delay: 86.912 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 214.55 Mbit/s
95th percentile per-packet one-way delay: 63.581 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 28.20 Mbit/s
95th percentile per-packet one-way delay: 61.490 ms
Loss rate: 2.18%
Run 8: Report of PCC-Vivace — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 317.84 Mbps)
- Flow 1 egress (mean 317.24 Mbps)
- Flow 2 ingress (mean 214.66 Mbps)
- Flow 2 egress (mean 214.55 Mbps)
- Flow 3 ingress (mean 28.46 Mbps)
- Flow 3 egress (mean 28.20 Mbps)

**Per-packet round-trip delay (ms):**
- Flow 1 (95th percentile 86.91 ms)
- Flow 2 (95th percentile 63.58 ms)
- Flow 3 (95th percentile 61.49 ms)
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-11 18:15:30
End at: 2018-07-11 18:16:00
Local clock offset: -0.032 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2018-07-11 22:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.64 Mbit/s
95th percentile per-packet one-way delay: 120.115 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 294.95 Mbit/s
95th percentile per-packet one-way delay: 126.764 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 216.93 Mbit/s
95th percentile per-packet one-way delay: 136.064 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 173.44 Mbit/s
95th percentile per-packet one-way delay: 81.456 ms
Loss rate: 2.09%
Run 9: Report of PCC-Vivace — Data Link

![Graph of throughput and packet one-way delay over time for three flows with their respective mean values and 95th percentile delays.]
Run 10: Statistics of PCC-Vivace

Start at: 2018-07-11 18:40:27
End at: 2018-07-11 18:40:57
Local clock offset: -0.008 ms
Remote clock offset: 1.115 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.35 Mbit/s
95th percentile per-packet one-way delay: 63.203 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 304.00 Mbit/s
95th percentile per-packet one-way delay: 63.761 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 246.86 Mbit/s
95th percentile per-packet one-way delay: 62.854 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 60.562 ms
Loss rate: 1.82%
Run 10: Report of PCC-Vivace — Data Link

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

Legend:
- Flow 1 ingress (mean 304.02 Mbit/s)
- Flow 1 egress (mean 304.00 Mbit/s)
- Flow 2 ingress (mean 247.41 Mbit/s)
- Flow 2 egress (mean 246.86 Mbit/s)
- Flow 3 ingress (mean 91.03 Mbit/s)
- Flow 3 egress (mean 90.46 Mbit/s)
Run 1: Statistics of WebRTC media

Start at: 2018-07-11 14:42:34
End at: 2018-07-11 14:43:04
Local clock offset: 0.059 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.69 Mbit/s
  95th percentile per-packet one-way delay: 61.347 ms
  Loss rate: 1.05%
-- Flow 1:
  Average throughput: 1.09 Mbit/s
  95th percentile per-packet one-way delay: 61.302 ms
  Loss rate: 0.87%
-- Flow 2:
  Average throughput: 1.09 Mbit/s
  95th percentile per-packet one-way delay: 61.114 ms
  Loss rate: 0.90%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 61.502 ms
  Loss rate: 1.77%
Run 1: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.10 Mbit/s)
Flow 1 egress (mean 1.09 Mbit/s)
Flow 2 ingress (mean 1.09 Mbit/s)
Flow 2 egress (mean 1.09 Mbit/s)
Flow 3 ingress (mean 0.53 Mbit/s)
Flow 3 egress (mean 0.53 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 61.30 ms)
Flow 2 (95th percentile 61.11 ms)
Flow 3 (95th percentile 61.50 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-07-11 15:07:26
End at: 2018-07-11 15:07:56
Local clock offset: 0.047 ms
Remote clock offset: -1.322 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.82 Mbit/s
  95th percentile per-packet one-way delay: 68.027 ms
  Loss rate: 0.75%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 68.060 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 62.865 ms
  Loss rate: 0.48%
-- Flow 3:
  Average throughput: 0.50 Mbit/s
  95th percentile per-packet one-way delay: 62.689 ms
  Loss rate: 2.16%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

End at: 2018-07-11 15:33:11
Local clock offset: 0.051 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 67.294 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 67.381 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 61.441 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 61.546 ms
Loss rate: 2.13%
Run 3: Report of WebRTC media — Data Link

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

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30 35

Flow 1 ingress (mean 2.04 Mbit/s)  Flow 1 egress (mean 2.03 Mbit/s)
Flow 2 ingress (mean 1.32 Mbit/s)  Flow 2 egress (mean 1.32 Mbit/s)
Flow 3 ingress (mean 0.54 Mbit/s)  Flow 3 egress (mean 0.53 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 67.38 ms)  Flow 2 (95th percentile 61.44 ms)  Flow 3 (95th percentile 61.55 ms)
Run 4: Statistics of WebRTC media

End at: 2018-07-11 15:58:14
Local clock offset: 0.005 ms
Remote clock offset: -0.344 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 67.083 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 67.097 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 61.952 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 67.079 ms
Loss rate: 2.22%
Run 4: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.08 Mbit/s)
- Flow 1 egress (mean 2.08 Mbit/s)
- Flow 2 ingress (mean 1.11 Mbit/s)
- Flow 2 egress (mean 1.11 Mbit/s)
- Flow 3 ingress (mean 0.51 Mbit/s)
- Flow 3 egress (mean 0.50 Mbit/s)
Run 5: Statistics of WebRTC media

Local clock offset: 0.018 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 66.717 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 61.384 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 66.787 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 61.357 ms
Loss rate: 2.05%
Run 5: Report of WebRTC media — Data Link

[Graph showing throughput and packet delay over time for different flows]
Run 6: Statistics of WebRTC media

Start at: 2018-07-11 16:48:05
End at: 2018-07-11 16:48:36
Local clock offset: -0.069 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 61.535 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 61.003 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 61.652 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 66.620 ms
Loss rate: 1.50%
Run 6: Report of WebRTC media — Data Link

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![Graph 1](image-url1)

**Throughput (Mbit/s)**

- **Flow 1 ingress (mean 2.00 Mbit/s)**
- **Flow 1 egress (mean 1.99 Mbit/s)**
- **Flow 2 ingress (mean 1.31 Mbit/s)**
- **Flow 2 egress (mean 1.30 Mbit/s)**
- **Flow 3 ingress (mean 0.52 Mbit/s)**
- **Flow 3 egress (mean 0.52 Mbit/s)**

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![Graph 2](image-url2)

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

- **Flow 1 (95th percentile 61.00 ms)**
- **Flow 2 (95th percentile 61.65 ms)**
- **Flow 3 (95th percentile 66.62 ms)**

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Run 7: Statistics of WebRTC media

End at: 2018-07-11 17:14:13
Local clock offset: 0.006 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-07-11 22:02:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.81 Mbit/s
  95th percentile per-packet one-way delay: 61.661 ms
  Loss rate: 0.86%
-- Flow 1:
  Average throughput: 2.03 Mbit/s
  95th percentile per-packet one-way delay: 61.686 ms
  Loss rate: 0.57%
-- Flow 2:
  Average throughput: 1.29 Mbit/s
  95th percentile per-packet one-way delay: 61.647 ms
  Loss rate: 0.97%
-- Flow 3:
  Average throughput: 0.51 Mbit/s
  95th percentile per-packet one-way delay: 61.296 ms
  Loss rate: 1.72%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-07-11 17:38:59
End at: 2018-07-11 17:39:29
Local clock offset: -0.07 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2018-07-11 22:02:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 66.827 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 66.857 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 61.306 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 61.389 ms
Loss rate: 1.51%
Run 8: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.02 Mbit/s) - Flow 1 egress (mean 2.02 Mbit/s)
- Flow 2 ingress (mean 1.33 Mbit/s) - Flow 2 egress (mean 1.32 Mbit/s)
- Flow 3 ingress (mean 0.53 Mbit/s) - Flow 3 egress (mean 0.52 Mbit/s)
Run 9: Statistics of WebRTC media

Start at: 2018-07-11 18:03:51  
End at: 2018-07-11 18:04:21  
Local clock offset: -0.057 ms  
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2018-07-11 22:02:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.80 Mbit/s  
95th percentile per-packet one-way delay: 61.631 ms  
Loss rate: 0.83%
-- Flow 1:
Average throughput: 2.01 Mbit/s  
95th percentile per-packet one-way delay: 61.516 ms  
Loss rate: 0.48%
-- Flow 2:
Average throughput: 1.31 Mbit/s  
95th percentile per-packet one-way delay: 61.421 ms  
Loss rate: 0.90%
-- Flow 3:
Average throughput: 0.50 Mbit/s  
95th percentile per-packet one-way delay: 62.038 ms  
Loss rate: 2.05%
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

Start at: 2018-07-11 18:29:10
End at: 2018-07-11 18:29:40
Local clock offset: 0.005 ms
Remote clock offset: 0.056 ms

# Below is generated by plot.py at 2018-07-11 22:02:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 61.460 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 61.232 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 61.572 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 61.065 ms
Loss rate: 1.75%
Run 10: Report of WebRTC media — Data Link

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

Throughput (Mbps)

Time (s)

[Legend for throughput graphs: Flow 1 ingress (mean 2.03 Mbps), Flow 1 egress (mean 2.03 Mbps), Flow 2 ingress (mean 1.33 Mbps), Flow 2 egress (mean 1.32 Mbps), Flow 3 ingress (mean 0.51 Mbps), Flow 3 egress (mean 0.50 Mbps).]

Per-packet one-way delay (ms)

[Legend for per-packet delay graphs: Flow 1 (95th percentile 61.23 ms), Flow 2 (95th percentile 61.57 ms), Flow 3 (95th percentile 61.06 ms).]