Pantheon Report

Generated at 2018-06-30 00:35:14 (UTC).
Data path: AWS India 1 Ethernet (local) → India Ethernet (remote).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 715dc5f09d172e419699f6f17f1cb4c450646f212
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 30060ab034deb3424347f5cc3db86198e935d2a
third_party/genericCC @ d0153f8e594aa9e93b032143cedbdfefe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38cd4e0edbf90c077e6d4
third_party/libutp @ b3465b942e28642b1b7e9906ce6bb7c3f36
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b2cbe8f646b1b39
third_party/pcc @ 1af03e4fa0d6d68d623c091a55f3672b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08f92c4eb24f974ab
third_party/proto-quic @ 77961f1a8273a86b42f1bc8143e9c978f3ccff42
third_party/scream-reproduce @ f099118d1421a3131bf1ff1964974e1da3dbb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d48e47ea74c6c60261149af2629562593e9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211345ae071a32f96b7d8c50458f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9ddee4735770d143a1fa2851
test from AWS India 1 to India, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>60.08</td>
<td>28.36</td>
<td>30.30</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>48.00</td>
<td>32.19</td>
<td>28.41</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>24.47</td>
<td>18.51</td>
<td>16.58</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>57.71</td>
<td>35.64</td>
<td>26.26</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>53.71</td>
<td>34.08</td>
<td>38.31</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>24.18</td>
<td>20.16</td>
<td>16.80</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>72.10</td>
<td>7.15</td>
<td>6.14</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>59.27</td>
<td>24.66</td>
<td>15.30</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>30.62</td>
<td>22.61</td>
<td>19.29</td>
</tr>
<tr>
<td>SCReAM</td>
<td>10</td>
<td>0.17</td>
<td>0.18</td>
<td>0.19</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>20.31</td>
<td>19.81</td>
<td>19.01</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>53.12</td>
<td>39.19</td>
<td>33.56</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>24.45</td>
<td>18.24</td>
<td>17.88</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>43.63</td>
<td>29.26</td>
<td>19.69</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>2.16</td>
<td>1.40</td>
<td>0.50</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-06-29 21:11:24
End at: 2018-06-29 21:11:54
Local clock offset: 1.674 ms
Remote clock offset: -7.01 ms

# Below is generated by plot.py at 2018-06-30 00:15:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 85.13 Mbit/s
  95th percentile per-packet one-way delay: 39.151 ms
  Loss rate: 9.67%
-- Flow 1:
  Average throughput: 53.06 Mbit/s
  95th percentile per-packet one-way delay: 38.232 ms
  Loss rate: 9.09%
-- Flow 2:
  Average throughput: 29.74 Mbit/s
  95th percentile per-packet one-way delay: 40.297 ms
  Loss rate: 9.69%
-- Flow 3:
  Average throughput: 36.90 Mbit/s
  95th percentile per-packet one-way delay: 39.779 ms
  Loss rate: 12.03%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2018-06-29 21:30:48
End at: 2018-06-29 21:31:18
Local clock offset: 1.945 ms
Remote clock offset: -6.985 ms

# Below is generated by plot.py at 2018-06-30 00:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 38.817 ms
Loss rate: 8.23%
-- Flow 1:
Average throughput: 62.39 Mbit/s
95th percentile per-packet one-way delay: 37.226 ms
Loss rate: 7.80%
-- Flow 2:
Average throughput: 31.51 Mbit/s
95th percentile per-packet one-way delay: 40.245 ms
Loss rate: 9.00%
-- Flow 3:
Average throughput: 23.29 Mbit/s
95th percentile per-packet one-way delay: 42.020 ms
Loss rate: 9.56%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Start at: 2018-06-29 21:50:25
End at: 2018-06-29 21:50:55
Local clock offset: 2.438 ms
Remote clock offset: -5.568 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 38.632 ms
Loss rate: 7.31%
-- Flow 1:
Average throughput: 68.63 Mbit/s
95th percentile per-packet one-way delay: 38.537 ms
Loss rate: 7.10%
-- Flow 2:
Average throughput: 26.03 Mbit/s
95th percentile per-packet one-way delay: 39.168 ms
Loss rate: 7.72%
-- Flow 3:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 40.400 ms
Loss rate: 8.15%
Run 3: Report of TCP BBR — Data Link

![Throughput Graph](image1)

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

- Flow 1 ingress (mean 73.92 Mbit/s)
- Flow 1 egress (mean 68.63 Mbit/s)
- Flow 2 ingress (mean 26.80 Mbit/s)
- Flow 2 egress (mean 26.03 Mbit/s)
- Flow 3 ingress (mean 29.66 Mbit/s)
- Flow 3 egress (mean 27.26 Mbit/s)

- Flow 1 (95th percentile 38.54 ms)
- Flow 2 (95th percentile 39.17 ms)
- Flow 3 (95th percentile 49.40 ms)
Run 4: Statistics of TCP BBR

Start at: 2018-06-29 22:10:10
End at: 2018-06-29 22:10:40
Local clock offset: -2.078 ms
Remote clock offset: -6.272 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.15 Mbit/s
95th percentile per-packet one-way delay: 38.065 ms
Loss rate: 9.57%
-- Flow 1:
Average throughput: 64.38 Mbit/s
95th percentile per-packet one-way delay: 36.545 ms
Loss rate: 9.38%
-- Flow 2:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 41.064 ms
Loss rate: 9.97%
-- Flow 3:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 41.668 ms
Loss rate: 10.23%
Run 4: Report of TCP BBR — Data Link

[Graph: Throughput vs. Time for different flows]

[Graph: Per packet one-way delay vs. Time for different flows]
Run 5: Statistics of TCP BBR

End at: 2018-06-29 22:30:11
Local clock offset: -0.73 ms
Remote clock offset: 7.223 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.96 Mbit/s
95th percentile per-packet one-way delay: 38.704 ms
Loss rate: 10.14%
-- Flow 1:
Average throughput: 65.05 Mbit/s
95th percentile per-packet one-way delay: 38.827 ms
Loss rate: 9.20%
-- Flow 2:
Average throughput: 27.12 Mbit/s
95th percentile per-packet one-way delay: 39.398 ms
Loss rate: 11.24%
-- Flow 3:
Average throughput: 29.74 Mbit/s
95th percentile per-packet one-way delay: 30.367 ms
Loss rate: 14.18%
Run 5: Report of TCP BBR — Data Link

![Graph depicting throughput and packet delay over time for different flows.]
Run 6: Statistics of TCP BBR

Start at: 2018-06-29 22:49:10
End at: 2018-06-29 22:49:40
Local clock offset: -0.574 ms
Remote clock offset: 4.155 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 43.324 ms
Loss rate: 9.74%
-- Flow 1:
Average throughput: 58.71 Mbit/s
95th percentile per-packet one-way delay: 40.478 ms
Loss rate: 9.49%
-- Flow 2:
Average throughput: 26.06 Mbit/s
95th percentile per-packet one-way delay: 46.145 ms
Loss rate: 9.92%
-- Flow 3:
Average throughput: 39.80 Mbit/s
95th percentile per-packet one-way delay: 47.384 ms
Loss rate: 10.60%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-06-29 23:08:44
End at: 2018-06-29 23:09:14
Local clock offset: -0.571 ms
Remote clock offset: 3.202 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.75 Mbit/s
95th percentile per-packet one-way delay: 38.233 ms
Loss rate: 11.50%
-- Flow 1:
Average throughput: 58.30 Mbit/s
95th percentile per-packet one-way delay: 37.894 ms
Loss rate: 10.95%
-- Flow 2:
Average throughput: 29.53 Mbit/s
95th percentile per-packet one-way delay: 37.538 ms
Loss rate: 12.48%
-- Flow 3:
Average throughput: 20.47 Mbit/s
95th percentile per-packet one-way delay: 40.855 ms
Loss rate: 13.24%
Run 7: Report of TCP BBR — Data Link

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

Legend:
- **Flow 1 ingress** (mean 65.47 Mbit/s)
- **Flow 1 egress** (mean 58.30 Mbit/s)
- **Flow 2 ingress** (mean 33.70 Mbit/s)
- **Flow 2 egress** (mean 29.53 Mbit/s)
- **Flow 3 ingress** (mean 23.59 Mbit/s)
- **Flow 3 egress** (mean 20.47 Mbit/s)

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

Legend:
- **Flow 1** (95th percentile 37.89 ms)
- **Flow 2** (95th percentile 37.54 ms)
- **Flow 3** (95th percentile 40.85 ms)
Run 8: Statistics of TCP BBR

End at: 2018-06-29 23:28:49
Local clock offset: 0.782 ms
Remote clock offset: 1.33 ms

# Below is generated by plot.py at 2018-06-30 00:15:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.30 Mbit/s
95th percentile per-packet one-way delay: 43.272 ms
Loss rate: 7.05%
-- Flow 1:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 41.762 ms
Loss rate: 6.81%
-- Flow 2:
Average throughput: 38.13 Mbit/s
95th percentile per-packet one-way delay: 44.197 ms
Loss rate: 7.55%
-- Flow 3:
Average throughput: 33.49 Mbit/s
95th percentile per-packet one-way delay: 44.236 ms
Loss rate: 7.15%
Run 8: Report of TCP BBR — Data Link
Run 9: Statistics of TCP BBR

End at: 2018-06-29 23:48:36
Local clock offset: 0.02 ms
Remote clock offset: -3.354 ms

# Below is generated by plot.py at 2018-06-30 00:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.33 Mbit/s
95th percentile per-packet one-way delay: 41.750 ms
Loss rate: 9.02%
-- Flow 1:
Average throughput: 61.89 Mbit/s
95th percentile per-packet one-way delay: 40.903 ms
Loss rate: 8.65%
-- Flow 2:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 43.460 ms
Loss rate: 9.96%
-- Flow 3:
Average throughput: 35.91 Mbit/s
95th percentile per-packet one-way delay: 43.496 ms
Loss rate: 9.56%
Run 9: Report of TCP BBR — Data Link
Run 10: Statistics of TCP BBR

Start at: 2018-06-30 00:07:42
End at: 2018-06-30 00:08:12
Local clock offset: -1.213 ms
Remote clock offset: -6.89 ms

# Below is generated by plot.py at 2018-06-30 00:16:51
# Datalink statistics
 -- Total of 3 flows:
 Average throughput: 75.30 Mbit/s
 95th percentile per-packet one-way delay: 33.456 ms
 Loss rate: 14.78%
 -- Flow 1:
 Average throughput: 50.62 Mbit/s
 95th percentile per-packet one-way delay: 30.540 ms
 Loss rate: 15.42%
 -- Flow 2:
 Average throughput: 21.32 Mbit/s
 95th percentile per-packet one-way delay: 32.767 ms
 Loss rate: 14.37%
 -- Flow 3:
 Average throughput: 31.51 Mbit/s
 95th percentile per-packet one-way delay: 38.972 ms
 Loss rate: 12.17%
Run 10: Report of TCP BBR — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 59.84 Mbps)
  - Flow 1 egress (mean 50.62 Mbps)
  - Flow 2 ingress (mean 24.90 Mbps)
  - Flow 2 egress (mean 21.32 Mbps)
  - Flow 3 ingress (mean 35.87 Mbps)
  - Flow 3 egress (mean 31.51 Mbps)

- **Per-packet round-trip time (ms):**
  - Flow 1 (95th percentile 30.54 ms)
  - Flow 2 (95th percentile 32.77 ms)
  - Flow 3 (95th percentile 38.97 ms)
Run 1: Statistics of Copa

Start at: 2018-06-29 20:57:26
End at: 2018-06-29 20:57:56
Local clock offset: 2.374 ms
Remote clock offset: -2.637 ms

# Below is generated by plot.py at 2018-06-30 00:17:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.99 Mbit/s
95th percentile per-packet one-way delay: 14.245 ms
Loss rate: 8.86%
-- Flow 1:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 14.292 ms
Loss rate: 8.33%
-- Flow 2:
Average throughput: 35.94 Mbit/s
95th percentile per-packet one-way delay: 14.039 ms
Loss rate: 10.07%
-- Flow 3:
Average throughput: 24.10 Mbit/s
95th percentile per-packet one-way delay: 14.735 ms
Loss rate: 8.28%
Run 1: Report of Copa — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 51.32 Mbps)
  - Flow 1 egress (mean 47.04 Mbps)
  - Flow 2 ingress (mean 39.97 Mbps)
  - Flow 2 egress (mean 35.94 Mbps)
  - Flow 3 ingress (mean 26.28 Mbps)
  - Flow 3 egress (mean 24.10 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 14.29 ms)
  - Flow 2 (95th percentile 14.04 ms)
  - Flow 3 (95th percentile 14.73 ms)
Run 2: Statistics of Copa

Start at: 2018-06-29 21:17:02
End at: 2018-06-29 21:17:32
Local clock offset: 0.223 ms
Remote clock offset: -8.814 ms

# Below is generated by plot.py at 2018-06-30 00:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.55 Mbit/s
95th percentile per-packet one-way delay: 15.712 ms
Loss rate: 4.58%
-- Flow 1:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 15.627 ms
Loss rate: 3.73%
-- Flow 2:
Average throughput: 34.95 Mbit/s
95th percentile per-packet one-way delay: 15.561 ms
Loss rate: 6.18%
-- Flow 3:
Average throughput: 23.24 Mbit/s
95th percentile per-packet one-way delay: 16.881 ms
Loss rate: 5.01%
Run 2: Report of Copa — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 50.43 Mbit/s)
- Flow 1 egress (mean 48.55 Mbit/s)
- Flow 2 ingress (mean 37.25 Mbit/s)
- Flow 2 egress (mean 34.95 Mbit/s)
- Flow 3 ingress (mean 24.46 Mbit/s)
- Flow 3 egress (mean 23.24 Mbit/s)

**Per-packet end-to-end delay (ms):**
- Flow 1 (95th percentile 15.63 ms)
- Flow 2 (95th percentile 15.56 ms)
- Flow 3 (95th percentile 16.88 ms)
Run 3: Statistics of Copa

Start at: 2018-06-29 21:36:27
End at: 2018-06-29 21:36:57
Local clock offset: -0.55 ms
Remote clock offset: -6.185 ms

# Below is generated by plot.py at 2018-06-30 00:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.73 Mbit/s
95th percentile per-packet one-way delay: 15.487 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 48.83 Mbit/s
95th percentile per-packet one-way delay: 15.591 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 27.66 Mbit/s
95th percentile per-packet one-way delay: 15.023 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 46.63 Mbit/s
95th percentile per-packet one-way delay: 15.625 ms
Loss rate: 2.55%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2018-06-29 21:56:09
End at: 2018-06-29 21:56:39
Local clock offset: 1.941 ms
Remote clock offset: -5.714 ms

# Below is generated by plot.py at 2018-06-30 00:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 13.638 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 51.45 Mbit/s
95th percentile per-packet one-way delay: 13.351 ms
Loss rate: 2.49%
-- Flow 2:
Average throughput: 31.44 Mbit/s
95th percentile per-packet one-way delay: 13.878 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 23.52 Mbit/s
95th percentile per-packet one-way delay: 15.167 ms
Loss rate: 1.97%
Run 4: Report of Copa — Data Link

--

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 52.76 Mbit/s)
- Flow 1 egress (mean 51.45 Mbit/s)
- Flow 2 ingress (mean 32.68 Mbit/s)
- Flow 2 egress (mean 31.44 Mbit/s)
- Flow 3 ingress (mean 23.98 Mbit/s)
- Flow 3 egress (mean 23.52 Mbit/s)

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

- Flow 1 (95th percentile 13.35 ms)
- Flow 2 (95th percentile 13.88 ms)
- Flow 3 (95th percentile 15.17 ms)
Run 5: Statistics of Copa

End at: 2018-06-29 22:16:18
Local clock offset: 3.5 ms
Remote clock offset: 5.168 ms

# Below is generated by plot.py at 2018-06-30 00:17:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.82 Mbit/s
  95th percentile per-packet one-way delay: 14.875 ms
  Loss rate: 7.88%
-- Flow 1:
  Average throughput: 45.11 Mbit/s
  95th percentile per-packet one-way delay: 14.758 ms
  Loss rate: 7.42%
-- Flow 2:
  Average throughput: 36.83 Mbit/s
  95th percentile per-packet one-way delay: 14.895 ms
  Loss rate: 8.16%
-- Flow 3:
  Average throughput: 24.61 Mbit/s
  95th percentile per-packet one-way delay: 15.420 ms
  Loss rate: 9.53%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

Start at: 2018-06-29 22:35:19
End at: 2018-06-29 22:35:49
Local clock offset: 1.786 ms
Remote clock offset: 6.731 ms

# Below is generated by plot.py at 2018-06-30 00:17:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.19 Mbit/s
95th percentile per-packet one-way delay: 14.569 ms
Loss rate: 12.86%
-- Flow 1:
Average throughput: 49.80 Mbit/s
95th percentile per-packet one-way delay: 14.476 ms
Loss rate: 12.81%
-- Flow 2:
Average throughput: 29.07 Mbit/s
95th percentile per-packet one-way delay: 14.579 ms
Loss rate: 14.01%
-- Flow 3:
Average throughput: 30.15 Mbit/s
95th percentile per-packet one-way delay: 14.869 ms
Loss rate: 10.83%
Run 6: Report of Copa — Data Link
Run 7: Statistics of Copa

Start at: 2018-06-29 22:54:50
Local clock offset: -0.952 ms
Remote clock offset: 3.562 ms

# Below is generated by plot.py at 2018-06-30 00:18:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 17.307 ms
Loss rate: 11.82%
-- Flow 1:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 17.598 ms
Loss rate: 12.19%
-- Flow 2:
Average throughput: 29.08 Mbit/s
95th percentile per-packet one-way delay: 17.099 ms
Loss rate: 11.03%
-- Flow 3:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 16.711 ms
Loss rate: 11.74%
Run 7: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 49.07 Mbit/s)
- Flow 1 egress (mean 43.09 Mbit/s)
- Flow 2 ingress (mean 32.36 Mbit/s)
- Flow 2 egress (mean 29.08 Mbit/s)
- Flow 3 ingress (mean 35.20 Mbit/s)
- Flow 3 egress (mean 31.07 Mbit/s)

Legend for per-packet wire delay:
- Flow 1 (95th percentile 17.60 ms)
- Flow 2 (95th percentile 17.10 ms)
- Flow 3 (95th percentile 16.71 ms)
Run 8: Statistics of Copa

Start at: 2018-06-29 23:14:29
End at: 2018-06-29 23:14:59
Local clock offset: 1.382 ms
Remote clock offset: 3.371 ms

# Below is generated by plot.py at 2018-06-30 00:18:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 16.963 ms
Loss rate: 9.72%
-- Flow 1:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 16.570 ms
Loss rate: 8.83%
-- Flow 2:
Average throughput: 35.25 Mbit/s
95th percentile per-packet one-way delay: 17.027 ms
Loss rate: 10.89%
-- Flow 3:
Average throughput: 27.32 Mbit/s
95th percentile per-packet one-way delay: 19.163 ms
Loss rate: 11.09%
Run 8: Report of Copa — Data Link

![Graph of throughput over time](image1.png)

![Graph of packet loss over time](image2.png)
Run 9: Statistics of Copa

Start at: 2018-06-29 23:34:04
End at: 2018-06-29 23:34:34
Local clock offset: 2.731 ms
Remote clock offset: 1.374 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 81.36 Mbit/s
  95th percentile per-packet one-way delay: 14.950 ms
  Loss rate: 2.00%
-- Flow 1:
  Average throughput: 51.51 Mbit/s
  95th percentile per-packet one-way delay: 14.591 ms
  Loss rate: 1.48%
-- Flow 2:
  Average throughput: 31.32 Mbit/s
  95th percentile per-packet one-way delay: 15.102 ms
  Loss rate: 2.76%
-- Flow 3:
  Average throughput: 27.01 Mbit/s
  95th percentile per-packet one-way delay: 15.741 ms
  Loss rate: 3.18%
Run 9: Report of Copa — Data Link

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

- **Flow 1 ingress** (mean 52.29 Mbit/s)
- **Flow 1 egress** (mean 51.51 Mbit/s)
- **Flow 2 ingress** (mean 32.21 Mbit/s)
- **Flow 2 egress** (mean 31.32 Mbit/s)
- **Flow 3 ingress** (mean 27.90 Mbit/s)
- **Flow 3 egress** (mean 27.01 Mbit/s)

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

- **Flow 1 (95th percentile 14.59 ms)**
- **Flow 2 (95th percentile 15.10 ms)**
- **Flow 3 (95th percentile 15.74 ms)**

41
Run 10: Statistics of Copa

Start at: 2018-06-29 23:53:52
End at: 2018-06-29 23:54:22
Local clock offset: 0.433 ms
Remote clock offset: -4.864 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.85 Mbit/s
95th percentile per-packet one-way delay: 16.959 ms
Loss rate: 4.96%
-- Flow 1:
Average throughput: 48.85 Mbit/s
95th percentile per-packet one-way delay: 16.934 ms
Loss rate: 4.13%
-- Flow 2:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 16.955 ms
Loss rate: 6.20%
-- Flow 3:
Average throughput: 26.45 Mbit/s
95th percentile per-packet one-way delay: 17.123 ms
Loss rate: 6.63%
Run 10: Report of Copa — Data Link

Throughput (Mbps/s) vs Time (s)

- Flow 1 ingress (mean 50.96 Mbps/s)
- Flow 1 egress (mean 48.85 Mbps/s)
- Flow 2 ingress (mean 32.34 Mbps/s)
- Flow 2 egress (mean 30.34 Mbps/s)
- Flow 3 ingress (mean 28.31 Mbps/s)
- Flow 3 egress (mean 26.45 Mbps/s)

Packet one-way delay (ms) vs Time (s)

- Flow 1 (95th percentile 16.93 ms)
- Flow 2 (95th percentile 16.95 ms)
- Flow 3 (95th percentile 17.12 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-06-29 21:01:58
End at: 2018-06-29 21:02:28
Local clock offset: -0.227 ms
Remote clock offset: -4.372 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 31.744 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 18.15 Mbit/s
95th percentile per-packet one-way delay: 38.802 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 12.990 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 20.882 ms
Loss rate: 0.63%
Run 1: Report of TCP Cubic — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows and their ingress and egress rates with mean values.]
Run 2: Statistics of TCP Cubic

End at: 2018-06-29 21:22:02
Local clock offset: 0.003 ms
Remote clock offset: -9.841 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 43.82 Mbit/s
  95th percentile per-packet one-way delay: 30.954 ms
  Loss rate: 0.48%
-- Flow 1:
  Average throughput: 24.74 Mbit/s
  95th percentile per-packet one-way delay: 28.857 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 21.49 Mbit/s
  95th percentile per-packet one-way delay: 36.774 ms
  Loss rate: 0.24%
-- Flow 3:
  Average throughput: 14.36 Mbit/s
  95th percentile per-packet one-way delay: 10.324 ms
  Loss rate: 0.63%
Run 2: Report of TCP Cubic — Data Link

![Graph 1: Throughput (Mbps) vs Time (s)]
- Flow 1 ingress (mean 24.88 Mbps)
- Flow 1 egress (mean 24.74 Mbps)
- Flow 2 ingress (mean 21.54 Mbps)
- Flow 2 egress (mean 21.49 Mbps)
- Flow 3 ingress (mean 14.45 Mbps)
- Flow 3 egress (mean 14.36 Mbps)

![Graph 2: Packet round-trip delay (ms) vs Time (s)]
- Flow 1 (95th percentile 28.86 ms)
- Flow 2 (95th percentile 36.77 ms)
- Flow 3 (95th percentile 10.32 ms)
Run 3: Statistics of TCP Cubic

Start at: 2018-06-29 21:40:55
End at: 2018-06-29 21:41:25
Local clock offset: 1.492 ms
Remote clock offset: -6.511 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.90 Mbit/s
95th percentile per-packet one-way delay: 33.763 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 28.01 Mbit/s
95th percentile per-packet one-way delay: 33.331 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.54 Mbit/s
95th percentile per-packet one-way delay: 34.024 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 13.71 Mbit/s
95th percentile per-packet one-way delay: 33.513 ms
Loss rate: 0.59%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2018-06-29 22:00:45
End at: 2018-06-29 22:01:15
Local clock offset: 1.473 ms
Remote clock offset: -2.969 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.24 Mbit/s
95th percentile per-packet one-way delay: 34.823 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 28.15 Mbit/s
95th percentile per-packet one-way delay: 34.379 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 20.02 Mbit/s
95th percentile per-packet one-way delay: 39.634 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 17.31 Mbit/s
95th percentile per-packet one-way delay: 22.410 ms
Loss rate: 0.18%
Run 4: Report of TCP Cubic — Data Link
Run 5: Statistics of TCP Cubic

Start at: 2018-06-29 22:20:18
End at: 2018-06-29 22:20:48
Local clock offset: 0.783 ms
Remote clock offset: 6.658 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 32.923 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 27.87 Mbit/s
95th percentile per-packet one-way delay: 35.138 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 20.76 Mbit/s
95th percentile per-packet one-way delay: 24.272 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 19.80 Mbit/s
95th percentile per-packet one-way delay: 18.480 ms
Loss rate: 0.14%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

End at: 2018-06-29 22:40:21
Local clock offset: 0.793 ms
Remote clock offset: 6.443 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 19.44 Mbit/s
  95th percentile per-packet one-way delay: 11.855 ms
  Loss rate: 1.24%
-- Flow 1:
  Average throughput: 12.03 Mbit/s
  95th percentile per-packet one-way delay: 11.881 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 6.62 Mbit/s
  95th percentile per-packet one-way delay: 11.680 ms
  Loss rate: 1.48%
-- Flow 3:
  Average throughput: 9.01 Mbit/s
  95th percentile per-packet one-way delay: 13.206 ms
  Loss rate: 2.72%
Run 6: Report of TCP Cubic — Data Link

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

Flow 1 ingress (mean 12.12 Mbps/s)
Flow 1 egress (mean 12.03 Mbps/s)
Flow 2 ingress (mean 6.72 Mbps/s)
Flow 2 egress (mean 6.62 Mbps/s)
Flow 3 ingress (mean 9.26 Mbps/s)
Flow 3 egress (mean 9.01 Mbps/s)

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

Flow 1 (95th percentile 11.88 ms)
Flow 2 (95th percentile 11.68 ms)
Flow 3 (95th percentile 13.21 ms)
Run 7: Statistics of TCP Cubic

End at: 2018-06-29 22:59:50
Local clock offset: 1.182 ms
Remote clock offset: 4.072 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 24.468 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 20.17 Mbit/s
95th percentile per-packet one-way delay: 31.555 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 12.81 Mbit/s
95th percentile per-packet one-way delay: 10.308 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 19.348 ms
Loss rate: 0.65%
Run 7: Report of TCP Cubic — Data Link

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

Legend:
- Flow 1 ingress (mean 20.35 Mbit/s)
- Flow 1 eegress (mean 20.17 Mbit/s)
- Flow 2 ingress (mean 12.86 Mbit/s)
- Flow 2 eegress (mean 12.81 Mbit/s)
- Flow 3 ingress (mean 11.16 Mbit/s)
- Flow 3 eegress (mean 11.09 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 31.55 ms)
- Flow 2 (95th percentile 10.31 ms)
- Flow 3 (95th percentile 19.35 ms)
Run 8: Statistics of TCP Cubic

Start at: 2018-06-29 23:18:59
End at: 2018-06-29 23:19:29
Local clock offset: 2.583 ms
Remote clock offset: 1.316 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.90 Mbit/s
95th percentile per-packet one-way delay: 28.140 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 21.28 Mbit/s
95th percentile per-packet one-way delay: 27.144 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 16.59 Mbit/s
95th percentile per-packet one-way delay: 33.007 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 16.73 Mbit/s
95th percentile per-packet one-way delay: 17.898 ms
Loss rate: 0.29%
Run 8: Report of TCP Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 21.33 Mbps)
  - Flow 1 egress (mean 21.28 Mbps)
  - Flow 2 ingress (mean 16.66 Mbps)
  - Flow 2 egress (mean 16.59 Mbps)
  - Flow 3 ingress (mean 16.77 Mbps)
  - Flow 3 egress (mean 16.73 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 27.14 ms)
  - Flow 2 (95th percentile 33.01 ms)
  - Flow 3 (95th percentile 17.90 ms)
Run 9: Statistics of TCP Cubic

Start at: 2018-06-29 23:38:41
End at: 2018-06-29 23:39:11
Local clock offset: 3.79 ms
Remote clock offset: 1.771 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.67 Mbit/s
95th percentile per-packet one-way delay: 41.391 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 44.41 Mbit/s
95th percentile per-packet one-way delay: 42.361 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 26.99 Mbit/s
95th percentile per-packet one-way delay: 37.956 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 20.761 ms
Loss rate: 0.05%
Run 9: Report of TCP Cubic — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 44.58 Mbps)  Flow 1 egress (mean 44.41 Mbps)
Flow 2 ingress (mean 27.02 Mbps)  Flow 2 egress (mean 26.99 Mbps)
Flow 3 ingress (mean 27.94 Mbps)  Flow 3 egress (mean 27.89 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 42.36 ms)  Flow 2 (95th percentile 37.96 ms)  Flow 3 (95th percentile 20.76 ms)
Run 10: Statistics of TCP Cubic

Start at: 2018-06-29 23:58:21
End at: 2018-06-29 23:58:51
Local clock offset: -0.375 ms
Remote clock offset: -5.602 ms

# Below is generated by plot.py at 2018-06-30 00:19:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.82 Mbit/s
95th percentile per-packet one-way delay: 23.841 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 19.985 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 19.83 Mbit/s
95th percentile per-packet one-way delay: 29.194 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 20.30 Mbit/s
95th percentile per-packet one-way delay: 28.834 ms
Loss rate: 0.88%
Run 10: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2018-06-29 21:12:35
End at: 2018-06-29 21:13:05
Local clock offset: 2.662 ms
Remote clock offset: -7.73 ms

# Below is generated by plot.py at 2018-06-30 00:20:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.34 Mbit/s
95th percentile per-packet one-way delay: 43.081 ms
Loss rate: 26.35%
-- Flow 1:
Average throughput: 52.32 Mbit/s
95th percentile per-packet one-way delay: 41.418 ms
Loss rate: 24.34%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 43.952 ms
Loss rate: 28.33%
-- Flow 3:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 45.226 ms
Loss rate: 32.05%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

End at: 2018-06-29 21:32:28
Local clock offset: 0.007 ms
Remote clock offset: -6.389 ms

# Below is generated by plot.py at 2018-06-30 00:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.27 Mbit/s
95th percentile per-packet one-way delay: 44.696 ms
Loss rate: 27.28%
-- Flow 1:
Average throughput: 57.09 Mbit/s
95th percentile per-packet one-way delay: 43.375 ms
Loss rate: 24.51%
-- Flow 2:
Average throughput: 34.73 Mbit/s
95th percentile per-packet one-way delay: 46.000 ms
Loss rate: 30.41%
-- Flow 3:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 46.036 ms
Loss rate: 34.20%
Run 2: Report of FillP — Data Link

![Graph of Throughput over Time](image1)

![Graph of Packet Loss over Time](image2)
Run 3: Statistics of FillP

Start at: 2018-06-29 21:51:35
End at: 2018-06-29 21:52:05
Local clock offset: 1.348 ms
Remote clock offset: -4.739 ms

# Below is generated by plot.py at 2018-06-30 00:20:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 45.418 ms
Loss rate: 26.58%
-- Flow 1:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 45.163 ms
Loss rate: 22.76%
-- Flow 2:
Average throughput: 37.30 Mbit/s
95th percentile per-packet one-way delay: 45.437 ms
Loss rate: 32.20%
-- Flow 3:
Average throughput: 21.86 Mbit/s
95th percentile per-packet one-way delay: 46.986 ms
Loss rate: 34.99%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2018-06-29 22:11:19
End at: 2018-06-29 22:11:49
Local clock offset: 0.697 ms
Remote clock offset: 3.507 ms

# Below is generated by plot.py at 2018-06-30 00:20:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 46.397 ms
Loss rate: 24.51%
-- Flow 1:
Average throughput: 57.94 Mbit/s
95th percentile per-packet one-way delay: 45.653 ms
Loss rate: 20.63%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 47.153 ms
Loss rate: 30.51%
-- Flow 3:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 47.807 ms
Loss rate: 30.32%
Run 4: Report of FillP — Data Link

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

- Flow 1 ingress (mean 73.66 Mbit/s)
- Flow 2 ingress (mean 54.64 Mbit/s)
- Flow 3 ingress (mean 34.76 Mbit/s)
- Flow 1 egress (mean 57.94 Mbit/s)
- Flow 2 egress (mean 37.54 Mbit/s)
- Flow 3 egress (mean 24.22 Mbit/s)

- Flow 1 (95th percentile 45.65 ms)
- Flow 2 (95th percentile 47.15 ms)
- Flow 3 (95th percentile 47.81 ms)
Run 5: Statistics of FillP

Start at: 2018-06-29 22:30:52
Local clock offset: -0.672 ms
Remote clock offset: 8.897 ms

# Below is generated by plot.py at 2018-06-30 00:20:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 90.76 Mbit/s
  95th percentile per-packet one-way delay: 48.444 ms
  Loss rate: 28.38%
-- Flow 1:
  Average throughput: 57.05 Mbit/s
  95th percentile per-packet one-way delay: 47.532 ms
  Loss rate: 24.40%
-- Flow 2:
  Average throughput: 38.55 Mbit/s
  95th percentile per-packet one-way delay: 49.372 ms
  Loss rate: 33.48%
-- Flow 3:
  Average throughput: 24.77 Mbit/s
  95th percentile per-packet one-way delay: 49.120 ms
  Loss rate: 36.55%
Run 5: Report of FillP — Data Link
Run 6: Statistics of FillP

Start at: 2018-06-29 22:50:21
End at: 2018-06-29 22:50:51
Local clock offset: -0.699 ms
Remote clock offset: 4.719 ms

# Below is generated by plot.py at 2018-06-30 00:21:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.19 Mbit/s
95th percentile per-packet one-way delay: 48.035 ms
Loss rate: 26.98%
-- Flow 1:
Average throughput: 58.92 Mbit/s
95th percentile per-packet one-way delay: 47.616 ms
Loss rate: 24.49%
-- Flow 2:
Average throughput: 34.33 Mbit/s
95th percentile per-packet one-way delay: 48.464 ms
Loss rate: 30.43%
-- Flow 3:
Average throughput: 25.81 Mbit/s
95th percentile per-packet one-way delay: 48.860 ms
Loss rate: 33.36%
Run 6: Report of FillP — Data Link

**Throughput (Mbps)**

**Time (s)**

- Flow 1 ingress (mean 78.11 Mbps)
- Flow 1 egress (mean 58.92 Mbps)
- Flow 2 ingress (mean 49.38 Mbps)
- Flow 2 egress (mean 34.33 Mbps)
- Flow 3 ingress (mean 36.02 Mbps)
- Flow 3 egress (mean 25.81 Mbps)

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

- Flow 1 (95th percentile 47.62 ms)
- Flow 2 (95th percentile 48.46 ms)
- Flow 3 (95th percentile 48.86 ms)
Run 7: Statistics of FillP

Start at: 2018-06-29 23:09:55
End at: 2018-06-29 23:10:25
Local clock offset: -1.58 ms
Remote clock offset: 2.712 ms

# Below is generated by plot.py at 2018-06-30 00:21:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 47.458 ms
Loss rate: 24.21%
-- Flow 1:
Average throughput: 61.19 Mbit/s
95th percentile per-packet one-way delay: 46.960 ms
Loss rate: 22.11%
-- Flow 2:
Average throughput: 27.53 Mbit/s
95th percentile per-packet one-way delay: 48.116 ms
Loss rate: 26.43%
-- Flow 3:
Average throughput: 34.50 Mbit/s
95th percentile per-packet one-way delay: 48.443 ms
Loss rate: 30.85%
Run 7: Report of FillP — Data Link

Throughput vs. Time:
- Blue dashed line: Flow 1 ingress (mean 78.56 Mbit/s)
- Blue solid line: Flow 1 egress (mean 61.19 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 37.38 Mbit/s)
- Green solid line: Flow 2 egress (mean 27.53 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 49.87 Mbit/s)
- Red solid line: Flow 3 egress (mean 34.50 Mbit/s)

Packet per second vs. Time:
- Blue dots: Flow 1 (95th percentile 46.96 ms)
- Green dots: Flow 2 (95th percentile 48.12 ms)
- Red dots: Flow 3 (95th percentile 48.44 ms)
Run 8: Statistics of FillP

Start at: 2018-06-29 23:29:31
End at: 2018-06-29 23:30:01
Local clock offset: 2.626 ms
Remote clock offset: 1.368 ms

# Below is generated by plot.py at 2018-06-30 00:21:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 46.100 ms
Loss rate: 28.87%
-- Flow 1:
Average throughput: 59.59 Mbit/s
95th percentile per-packet one-way delay: 45.703 ms
Loss rate: 25.10%
-- Flow 2:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 46.665 ms
Loss rate: 33.71%
-- Flow 3:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 46.626 ms
Loss rate: 37.69%
Run 8: Report of FillP — Data Link

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

- **Throughput (Mbit/s):**
  - Flow 1 ingress (mean 79.65 Mbit/s)
  - Flow 1 egress (mean 59.59 Mbit/s)
  - Flow 2 ingress (mean 57.34 Mbit/s)
  - Flow 2 egress (mean 37.96 Mbit/s)
  - Flow 3 ingress (mean 39.11 Mbit/s)
  - Flow 3 egress (mean 24.35 Mbit/s)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 45.70 ms)
  - Flow 2 (95th percentile 46.66 ms)
  - Flow 3 (95th percentile 46.63 ms)
Run 9: Statistics of FillP

End at: 2018-06-29 23:49:51  
Local clock offset: 1.579 ms  
Remote clock offset: -3.438 ms

# Below is generated by plot.py at 2018-06-30 00:21:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.46 Mbit/s  
95th percentile per-packet one-way delay: 46.827 ms  
Loss rate: 28.83%  
-- Flow 1:  
Average throughput: 60.25 Mbit/s  
95th percentile per-packet one-way delay: 46.830 ms  
Loss rate: 24.32%  
-- Flow 2:  
Average throughput: 32.30 Mbit/s  
95th percentile per-packet one-way delay: 46.545 ms  
Loss rate: 35.85%  
-- Flow 3:  
Average throughput: 29.39 Mbit/s  
95th percentile per-packet one-way delay: 47.317 ms  
Loss rate: 36.86%
Run 9: Report of FillP — Data Link
Run 10: Statistics of FillP

Start at: 2018-06-30 00:08:52
End at: 2018-06-30 00:09:22
Local clock offset: 1.938 ms
Remote clock offset: -6.09 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.56 Mbit/s
95th percentile per-packet one-way delay: 45.458 ms
Loss rate: 28.16%
-- Flow 1:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 44.092 ms
Loss rate: 25.35%
-- Flow 2:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 46.465 ms
Loss rate: 31.24%
-- Flow 3:
Average throughput: 23.05 Mbit/s
95th percentile per-packet one-way delay: 47.000 ms
Loss rate: 35.31%
Run 10: Report of FillP — Data Link

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

Legend:
- Flow 1 ingress (mean 69.87 Mbit/s)
- Flow 1 egress (mean 52.12 Mbit/s)
- Flow 2 ingress (mean 54.18 Mbit/s)
- Flow 2 egress (mean 37.22 Mbit/s)
- Flow 3 ingress (mean 35.62 Mbit/s)
- Flow 3 egress (mean 23.05 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 44.09 ms)
- Flow 2 (95th percentile 46.47 ms)
- Flow 3 (95th percentile 47.00 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2018-06-29 20:58:41
End at: 2018-06-29 20:59:11
Local clock offset: -1.136 ms
Remote clock offset: -3.345 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.679 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.630 ms
Loss rate: 0.00%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

Start at: 2018-06-29 21:18:14
End at: 2018-06-29 21:18:44
Local clock offset: 2.936 ms
Remote clock offset: -9.485 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 6.874 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 6.974 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 6.815 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 6.543 ms
  Loss rate: 0.00%
Run 2: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Flow 1 Ingress (mean 0.00 Mbit/s)  Flow 1 Egress (mean 0.00 Mbit/s)
Flow 2 Ingress (mean 0.00 Mbit/s)  Flow 2 Egress (mean 0.00 Mbit/s)
Flow 3 Ingress (mean 0.00 Mbit/s)  Flow 3 Egress (mean 0.00 Mbit/s)

Delay (ms)

Flow 1 (95th percentile 6.97 ms)  Flow 2 (95th percentile 6.82 ms)  Flow 3 (95th percentile 6.54 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2018-06-29 21:37:39
End at: 2018-06-29 21:38:09
Local clock offset: -0.807 ms
Remote clock offset: -6.432 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.756 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.869 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.622 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.653 ms
Loss rate: 0.00%
Run 3: Report of FillP-Sheep — Data Link

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

- **Flow 1 Ingress (mean 0.00 Mbit/s)**
- **Flow 1 Egress (mean 0.00 Mbit/s)**
- **Flow 2 Ingress (mean 0.00 Mbit/s)**
- **Flow 2 Egress (mean 0.00 Mbit/s)**
- **Flow 3 Ingress (mean 0.00 Mbit/s)**
- **Flow 3 Egress (mean 0.00 Mbit/s)**

- **Round-trip delay in ms:**
  - **Flow 1 (95th percentile 9.87 ms)**
  - **Flow 2 (95th percentile 9.62 ms)**
  - **Flow 3 (95th percentile 9.65 ms)**
Run 4: Statistics of FillP-Sheep

End at: 2018-06-29 21:57:53
Local clock offset: 1.296 ms
Remote clock offset: -4.548 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 10.680 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 9.709 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 10.694 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 10.785 ms
  Loss rate: 0.00%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

End at: 2018-06-29 22:17:29
Local clock offset: 1.519 ms
Remote clock offset: 5.197 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.889 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.985 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.785 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.750 ms
Loss rate: 0.00%
Run 5: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 0.00 Mbit/s)
- Flow 1 egress (mean 0.00 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

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

- Flow 1 (95th percentile 9.98 ms)
- Flow 2 (95th percentile 9.79 ms)
- Flow 3 (95th percentile 9.75 ms)
Run 6: Statistics of FillP-Sheep

Start at: 2018-06-29 22:36:33
End at: 2018-06-29 22:37:03
Local clock offset: 1.55 ms
Remote clock offset: 7.569 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.687 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.663 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.582 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.822 ms
Loss rate: 0.00%
Run 6: Report of FillP-Sheep — Data Link
Run 7: Statistics of FillP-Sheep

Start at: 2018-06-29 22:56:04
End at: 2018-06-29 22:56:34
Local clock offset: -0.536 ms
Remote clock offset: 3.621 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.249 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.507 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.207 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.828 ms
Loss rate: 0.00%
Run 7: Report of FillP-Sheep — Data Link

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

Flow 1 Ingress (mean 0.00 Mbit/s)  Flow 1 Egress (mean 0.00 Mbit/s)  Flow 2 Ingress (mean 0.00 Mbit/s)  Flow 2 Egress (mean 0.00 Mbit/s)  Flow 3 Ingress (mean 0.00 Mbit/s)  Flow 3 Egress (mean 0.00 Mbit/s)
Run 8: Statistics of FillP-Sheep

Start at: 2018-06-29 23:15:43
End at: 2018-06-29 23:16:13
Local clock offset: 2.009 ms
Remote clock offset: 2.377 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.188 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.091 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.450 ms
Loss rate: 0.00%
Run 8: Report of FillP-Sheep — Data Link

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

Legend:
- Flow 1 ingress (mean 0.00 Mbit/s)
- Flow 1 egress (mean 0.00 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)
Run 9: Statistics of FillP-Sheep

Start at: 2018-06-29 23:35:20
End at: 2018-06-29 23:35:50
Local clock offset: 0.964 ms
Remote clock offset: 0.662 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.556 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.636 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.883 ms
Loss rate: 0.00%
Run 9: Report of FillP-Sheep — Data Link

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

- **Flow 1 Ingress** (mean 0.00 Mb/s)
- **Flow 1 Egress** (mean 0.00 Mb/s)
- **Flow 2 Ingress** (mean 0.00 Mb/s)
- **Flow 2 Egress** (mean 0.00 Mb/s)
- **Flow 3 Ingress** (mean 0.00 Mb/s)
- **Flow 3 Egress** (mean 0.00 Mb/s)

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

- **Flow 1** (95th percentile 10.56 ms)
- **Flow 2** (95th percentile 10.64 ms)
- **Flow 3** (95th percentile 10.88 ms)
Run 10: Statistics of FillP-Sheep

End at: 2018-06-29 23:55:34
Local clock offset: 1.468 ms
Remote clock offset: -4.7 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.390 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.457 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.390 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.379 ms
Loss rate: 0.00%
Run 10: Report of FillIP-Sheep — Data Link

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

Throughput (Mbps)

<table>
<thead>
<tr>
<th>Flow</th>
<th>Mean Throughput (Mbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingress</td>
<td></td>
</tr>
<tr>
<td>Egress</td>
<td></td>
</tr>
</tbody>
</table>

Packet delay (ms)

<table>
<thead>
<tr>
<th>Flow</th>
<th>95th Percentile Delay (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow 1</td>
<td>10.46</td>
</tr>
<tr>
<td>Flow 2</td>
<td>10.39</td>
</tr>
<tr>
<td>Flow 3</td>
<td>10.38</td>
</tr>
</tbody>
</table>
Run 1: Statistics of Indigo

Start at: 2018-06-29 21:06:40
End at: 2018-06-29 21:07:10
Local clock offset: 0.674 ms
Remote clock offset: -6.025 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.22 Mbit/s
95th percentile per-packet one-way delay: 18.377 ms
Loss rate: 8.94%
-- Flow 1:
Average throughput: 54.71 Mbit/s
95th percentile per-packet one-way delay: 18.162 ms
Loss rate: 7.65%
-- Flow 2:
Average throughput: 37.97 Mbit/s
95th percentile per-packet one-way delay: 18.469 ms
Loss rate: 11.09%
-- Flow 3:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 18.635 ms
Loss rate: 10.24%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2018-06-29 21:26:11
End at: 2018-06-29 21:26:41
Local clock offset: 0.476 ms
Remote clock offset: -7.492 ms

# Below is generated by plot.py at 2018-06-30 00:21:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.86 Mbit/s
  95th percentile per-packet one-way delay: 16.422 ms
  Loss rate: 5.03%
-- Flow 1:
  Average throughput: 51.27 Mbit/s
  95th percentile per-packet one-way delay: 15.902 ms
  Loss rate: 4.59%
-- Flow 2:
  Average throughput: 31.40 Mbit/s
  95th percentile per-packet one-way delay: 17.420 ms
  Loss rate: 5.65%
-- Flow 3:
  Average throughput: 44.96 Mbit/s
  95th percentile per-packet one-way delay: 17.423 ms
  Loss rate: 5.66%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-06-29 21:45:41
End at: 2018-06-29 21:46:11
Local clock offset: -1.628 ms
Remote clock offset: -5.536 ms

# Below is generated by plot.py at 2018-06-30 00:22:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.86 Mbit/s
  95th percentile per-packet one-way delay: 19.210 ms
  Loss rate: 6.92%
-- Flow 1:
  Average throughput: 56.94 Mbit/s
  95th percentile per-packet one-way delay: 17.486 ms
  Loss rate: 6.68%
-- Flow 2:
  Average throughput: 34.39 Mbit/s
  95th percentile per-packet one-way delay: 19.748 ms
  Loss rate: 7.78%
-- Flow 3:
  Average throughput: 36.98 Mbit/s
  95th percentile per-packet one-way delay: 20.430 ms
  Loss rate: 6.41%
Run 3: Report of Indigo — Data Link

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

Start at: 2018-06-29 22:05:29
End at: 2018-06-29 22:05:59
Local clock offset: 2.445 ms
Remote clock offset: -0.395 ms

# Below is generated by plot.py at 2018-06-30 00:22:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.63 Mbit/s
95th percentile per-packet one-way delay: 14.976 ms
Loss rate: 7.21%
-- Flow 1:
Average throughput: 59.95 Mbit/s
95th percentile per-packet one-way delay: 13.935 ms
Loss rate: 6.49%
-- Flow 2:
Average throughput: 28.03 Mbit/s
95th percentile per-packet one-way delay: 15.705 ms
Loss rate: 8.85%
-- Flow 3:
Average throughput: 43.05 Mbit/s
95th percentile per-packet one-way delay: 18.613 ms
Loss rate: 8.06%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Local clock offset: -0.004 ms
Remote clock offset: 6.702 ms

# Below is generated by plot.py at 2018-06-30 00:22:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 83.92 Mbit/s
  95th percentile per-packet one-way delay: 17.955 ms
  Loss rate: 10.09%
-- Flow 1:
  Average throughput: 50.89 Mbit/s
  95th percentile per-packet one-way delay: 16.937 ms
  Loss rate: 8.86%
-- Flow 2:
  Average throughput: 30.15 Mbit/s
  95th percentile per-packet one-way delay: 18.590 ms
  Loss rate: 10.91%
-- Flow 3:
  Average throughput: 39.69 Mbit/s
  95th percentile per-packet one-way delay: 19.047 ms
  Loss rate: 13.46%
Run 5: Report of Indigo — Data Link

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

![Graph 2: Delay vs Time](image2)
Run 6: Statistics of Indigo

Start at: 2018-06-29 22:44:32
End at: 2018-06-29 22:45:02
Local clock offset: 0.07 ms
Remote clock offset: 4.222 ms

# Below is generated by plot.py at 2018-06-30 00:22:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 18.021 ms
Loss rate: 12.94%
-- Flow 1:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 17.703 ms
Loss rate: 12.06%
-- Flow 2:
Average throughput: 37.20 Mbit/s
95th percentile per-packet one-way delay: 18.267 ms
Loss rate: 14.11%
-- Flow 3:
Average throughput: 36.53 Mbit/s
95th percentile per-packet one-way delay: 18.988 ms
Loss rate: 14.04%
Run 6: Report of Indigo — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image)
Run 7: Statistics of Indigo

Start at: 2018-06-29 23:03:58
End at: 2018-06-29 23:04:28
Local clock offset: 1.166 ms
Remote clock offset: 5.169 ms

# Below is generated by plot.py at 2018-06-30 00:22:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 89.59 Mbit/s
  95th percentile per-packet one-way delay: 18.173 ms
  Loss rate: 9.06%
-- Flow 1:
  Average throughput: 50.88 Mbit/s
  95th percentile per-packet one-way delay: 17.104 ms
  Loss rate: 8.58%
-- Flow 2:
  Average throughput: 39.27 Mbit/s
  95th percentile per-packet one-way delay: 18.533 ms
  Loss rate: 9.65%
-- Flow 3:
  Average throughput: 38.57 Mbit/s
  95th percentile per-packet one-way delay: 22.163 ms
  Loss rate: 9.77%
Run 7: Report of Indigo — Data Link
Run 8: Statistics of Indigo

End at: 2018-06-29 23:24:08
Local clock offset: -0.652 ms
Remote clock offset: 0.391 ms

# Below is generated by plot.py at 2018-06-30 00:23:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 19.112 ms
Loss rate: 8.14%
-- Flow 1:
Average throughput: 52.25 Mbit/s
95th percentile per-packet one-way delay: 18.716 ms
Loss rate: 7.48%
-- Flow 2:
Average throughput: 36.82 Mbit/s
95th percentile per-packet one-way delay: 19.801 ms
Loss rate: 8.45%
-- Flow 3:
Average throughput: 35.44 Mbit/s
95th percentile per-packet one-way delay: 20.028 ms
Loss rate: 10.36%
Run 8: Report of Indigo — Data Link
Run 9: Statistics of Indigo

Local clock offset: 2.991 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at 2018-06-30 00:23:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.85 Mbit/s
  95th percentile per-packet one-way delay: 17.584 ms
  Loss rate: 4.59%
-- Flow 1:
  Average throughput: 57.17 Mbit/s
  95th percentile per-packet one-way delay: 17.321 ms
  Loss rate: 4.37%
-- Flow 2:
  Average throughput: 33.21 Mbit/s
  95th percentile per-packet one-way delay: 18.571 ms
  Loss rate: 5.20%
-- Flow 3:
  Average throughput: 41.71 Mbit/s
  95th percentile per-packet one-way delay: 18.167 ms
  Loss rate: 4.49%
Run 9: Report of Indigo — Data Link

---

**Throughput (Mbps)**

<table>
<thead>
<tr>
<th>Flow 1 ingress (mean 59.79 Mbps)</th>
<th>Flow 1 egress (mean 57.17 Mbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow 2 ingress (mean 35.04 Mbps)</td>
<td>Flow 2 egress (mean 33.21 Mbps)</td>
</tr>
<tr>
<td>Flow 3 ingress (mean 43.68 Mbps)</td>
<td>Flow 3 egress (mean 41.71 Mbps)</td>
</tr>
</tbody>
</table>

---

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

- Flow 1 (95th percentile 17.32 ms)
- Flow 2 (95th percentile 18.57 ms)
- Flow 3 (95th percentile 18.17 ms)
Run 10: Statistics of Indigo

Start at: 2018-06-30 00:03:03
End at: 2018-06-30 00:03:33
Local clock offset: 1.593 ms
Remote clock offset: -6.061 ms

# Below is generated by plot.py at 2018-06-30 00:23:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.39 Mbit/s
95th percentile per-packet one-way delay: 18.540 ms
Loss rate: 8.85%
-- Flow 1:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 17.436 ms
Loss rate: 8.72%
-- Flow 2:
Average throughput: 32.31 Mbit/s
95th percentile per-packet one-way delay: 18.969 ms
Loss rate: 9.49%
-- Flow 3:
Average throughput: 34.70 Mbit/s
95th percentile per-packet one-way delay: 19.909 ms
Loss rate: 8.27%
Run 10: Report of Indigo — Data Link

![Graph showing throughput and packet delay over time for different flows.](image-url)
Run 1: Statistics of LEDBAT

Start at: 2018-06-29 20:59:46
End at: 2018-06-29 21:00:16
Local clock offset: 2.496 ms
Remote clock offset: -3.89 ms

# Below is generated by plot.py at 2018-06-30 00:23:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.19 Mbit/s
95th percentile per-packet one-way delay: 9.879 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 16.20 Mbit/s
95th percentile per-packet one-way delay: 9.967 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 16.02 Mbit/s
95th percentile per-packet one-way delay: 9.760 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 10.79 Mbit/s
95th percentile per-packet one-way delay: 9.740 ms
Loss rate: 1.32%
Run 1: Report of LEDBAT — Data Link

![Graph showing network traffic and latency](image-url)
Run 2: Statistics of LEDBAT

Start at: 2018-06-29 21:19:18
End at: 2018-06-29 21:19:48
Local clock offset: 1.965 ms
Remote clock offset: -8.553 ms

# Below is generated by plot.py at 2018-06-30 00:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 26.271 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 36.97 Mbit/s
95th percentile per-packet one-way delay: 24.199 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 28.074 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 17.40 Mbit/s
95th percentile per-packet one-way delay: 26.259 ms
Loss rate: 0.15%
Run 2: Report of LEDBAT — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 36.99 Mbps)
  - Flow 1 egress (mean 36.97 Mbps)
  - Flow 2 ingress (mean 24.12 Mbps)
  - Flow 2 egress (mean 24.09 Mbps)
  - Flow 3 ingress (mean 17.42 Mbps)
  - Flow 3 egress (mean 17.40 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 24.20 ms)
  - Flow 2 (95th percentile 28.07 ms)
  - Flow 3 (95th percentile 26.26 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-06-29 21:38:44
Local clock offset: -0.267 ms
Remote clock offset: -5.397 ms

# Below is generated by plot.py at 2018-06-30 00:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 16.519 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 21.34 Mbit/s
95th percentile per-packet one-way delay: 15.080 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 18.22 Mbit/s
95th percentile per-packet one-way delay: 18.748 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 11.505 ms
Loss rate: 1.15%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2018-06-29 21:58:29  
End at: 2018-06-29 21:58:59  
Local clock offset: 0.818 ms  
Remote clock offset: -4.994 ms

# Below is generated by plot.py at 2018-06-30 00:23:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 67.11 Mbit/s
  95th percentile per-packet one-way delay: 39.224 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 37.48 Mbit/s
  95th percentile per-packet one-way delay: 32.346 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 32.49 Mbit/s
  95th percentile per-packet one-way delay: 39.418 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 24.04 Mbit/s
  95th percentile per-packet one-way delay: 45.307 ms
  Loss rate: 0.12%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

End at: 2018-06-29 22:18:34
Local clock offset: 1.177 ms
Remote clock offset: 5.124 ms

# Below is generated by plot.py at 2018-06-30 00:23:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 43.52 Mbit/s
  95th percentile per-packet one-way delay: 22.682 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 25.81 Mbit/s
  95th percentile per-packet one-way delay: 14.305 ms
  Loss rate: 0.41%
-- Flow 2:
  Average throughput: 17.98 Mbit/s
  95th percentile per-packet one-way delay: 25.092 ms
  Loss rate: 0.56%
-- Flow 3:
  Average throughput: 17.46 Mbit/s
  95th percentile per-packet one-way delay: 29.273 ms
  Loss rate: 0.55%
Run 5: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 25.91 Mbps)
- Flow 1 egress (mean 25.81 Mbps)
- Flow 2 ingress (mean 18.08 Mbps)
- Flow 2 egress (mean 17.98 Mbps)
- Flow 3 ingress (mean 17.36 Mbps)
- Flow 3 egress (mean 17.46 Mbps)

![Graph of Per Packet End-to-End Delay (ms)](image)

- Flow 1 (95th percentile 14.30 ms)
- Flow 2 (95th percentile 25.09 ms)
- Flow 3 (95th percentile 29.27 ms)
Run 6: Statistics of LEDBAT

End at: 2018-06-29 22:38:08
Local clock offset: 3.711 ms
Remote clock offset: 6.333 ms

# Below is generated by plot.py at 2018-06-30 00:23:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.86 Mbit/s
95th percentile per-packet one-way delay: 15.612 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 16.78 Mbit/s
95th percentile per-packet one-way delay: 14.602 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 18.83 Mbit/s
95th percentile per-packet one-way delay: 16.771 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 15.027 ms
Loss rate: 0.86%
Run 6: Report of LEDBAT — Data Link

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

---

Flow 1 ingress (mean 16.90 Mbit/s)  
Flow 1 egress (mean 16.78 Mbit/s)  
Flow 2 ingress (mean 19.02 Mbit/s)  
Flow 2 egress (mean 18.83 Mbit/s)  
Flow 3 ingress (mean 13.76 Mbit/s)  
Flow 3 egress (mean 13.65 Mbit/s)
Run 7: Statistics of LEDBAT

Start at: 2018-06-29 22:57:09
End at: 2018-06-29 22:57:39
Local clock offset: -1.187 ms
Remote clock offset: 5.065 ms

# Below is generated by plot.py at 2018-06-30 00:23:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.48 Mbit/s
95th percentile per-packet one-way delay: 14.753 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 14.673 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 15.168 ms
Loss rate: 1.91%
-- Flow 3:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 13.957 ms
Loss rate: 4.84%
Run 7: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 10.39 Mbit/s)
- Flow 2 ingress (mean 8.78 Mbit/s)
- Flow 3 ingress (mean 4.67 Mbit/s)
- Flow 1 egress (mean 10.27 Mbit/s)
- Flow 2 egress (mean 8.61 Mbit/s)
- Flow 3 egress (mean 4.44 Mbit/s)

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

- Flow 1 (95th percentile 14.67 ms)
- Flow 2 (95th percentile 15.17 ms)
- Flow 3 (95th percentile 13.96 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-06-29 23:16:48
End at: 2018-06-29 23:17:18
Local clock offset: -0.247 ms
Remote clock offset: 2.365 ms

# Below is generated by plot.py at 2018-06-30 00:23:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 26.93 Mbit/s
  95th percentile per-packet one-way delay: 13.128 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 14.58 Mbit/s
  95th percentile per-packet one-way delay: 13.051 ms
  Loss rate: 0.83%
-- Flow 2:
  Average throughput: 10.75 Mbit/s
  95th percentile per-packet one-way delay: 13.012 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 17.10 Mbit/s
  95th percentile per-packet one-way delay: 13.405 ms
  Loss rate: 0.72%
Run 8: Report of LEDBAT — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 14.69 Mbps)
  - Flow 1 egress (mean 14.58 Mbps)
  - Flow 2 ingress (mean 10.89 Mbps)
  - Flow 2 egress (mean 10.75 Mbps)
  - Flow 3 ingress (mean 17.22 Mbps)
  - Flow 3 egress (mean 17.10 Mbps)

- **Per packet one-way delay (ms):**
  - Flow 1 (95th percentile 13.05 ms)
  - Flow 2 (95th percentile 13.01 ms)
  - Flow 3 (95th percentile 13.40 ms)
Run 9: Statistics of LEDBAT

Start at: 2018-06-29 23:36:25
End at: 2018-06-29 23:36:55
Local clock offset: 3.497 ms
Remote clock offset: 0.621 ms

# Below is generated by plot.py at 2018-06-30 00:24:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 66.85 Mbit/s
  95th percentile per-packet one-way delay: 31.320 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 35.23 Mbit/s
  95th percentile per-packet one-way delay: 29.401 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 34.36 Mbit/s
  95th percentile per-packet one-way delay: 33.963 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 26.28 Mbit/s
  95th percentile per-packet one-way delay: 28.155 ms
  Loss rate: 0.09%
Run 10: Statistics of LEDBAT

Start at: 2018-06-29 23:56:08
End at: 2018-06-29 23:56:38
Local clock offset: 0.752 ms
Remote clock offset: -4.861 ms

# Below is generated by plot.py at 2018-06-30 00:24:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 49.04 Mbit/s
  95th percentile per-packet one-way delay: 34.066 ms
  Loss rate: 0.33%
-- Flow 1:
  Average throughput: 27.11 Mbit/s
  95th percentile per-packet one-way delay: 31.850 ms
  Loss rate: 0.22%
-- Flow 2:
  Average throughput: 20.28 Mbit/s
  95th percentile per-packet one-way delay: 34.076 ms
  Loss rate: 0.52%
-- Flow 3:
  Average throughput: 25.29 Mbit/s
  95th percentile per-packet one-way delay: 36.498 ms
  Loss rate: 0.36%
Run 10: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-29 21:07:53
End at: 2018-06-29 21:08:23
Local clock offset: -0.363 ms
Remote clock offset: -7.321 ms

# Below is generated by plot.py at 2018-06-30 00:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.89 Mbit/s
95th percentile per-packet one-way delay: 13.438 ms
Loss rate: 8.48%
-- Flow 1:
Average throughput: 67.75 Mbit/s
95th percentile per-packet one-way delay: 13.158 ms
Loss rate: 8.26%
-- Flow 2:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 16.011 ms
Loss rate: 9.97%
-- Flow 3:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 12.293 ms
Loss rate: 9.01%
Run 1: Report of PCC-Allegro — Data Link

![Graph showing throughput and packet delay over time]

- **Throughput (Mbps/s):**
  - Flow 1 ingress (mean 73.83 Mbps/s)
  - Flow 1 egress (mean 67.75 Mbps/s)
  - Flow 2 ingress (mean 15.97 Mbps/s)
  - Flow 2 egress (mean 14.38 Mbps/s)
  - Flow 3 ingress (mean 1.96 Mbps/s)
  - Flow 3 egress (mean 1.76 Mbps/s)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 13.16 ms)
  - Flow 2 (95th percentile 16.01 ms)
  - Flow 3 (95th percentile 12.29 ms)
Run 2: Statistics of PCC-Allegro

End at: 2018-06-29 21:27:52
Local clock offset: 0.109 ms
Remote clock offset: -7.788 ms

# Below is generated by plot.py at 2018-06-30 00:24:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.41 Mbit/s
  95th percentile per-packet one-way delay: 13.963 ms
  Loss rate: 9.23%
-- Flow 1:
  Average throughput: 75.40 Mbit/s
  95th percentile per-packet one-way delay: 13.979 ms
  Loss rate: 9.20%
-- Flow 2:
  Average throughput: 1.96 Mbit/s
  95th percentile per-packet one-way delay: 13.657 ms
  Loss rate: 10.42%
-- Flow 3:
  Average throughput: 2.15 Mbit/s
  95th percentile per-packet one-way delay: 13.072 ms
  Loss rate: 10.38%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

Local clock offset: -2.08 ms
Remote clock offset: -6.083 ms

# Below is generated by plot.py at 2018-06-30 00:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.61 Mbit/s
95th percentile per-packet one-way delay: 39.762 ms
Loss rate: 5.75%
-- Flow 1:
Average throughput: 83.35 Mbit/s
95th percentile per-packet one-way delay: 39.886 ms
Loss rate: 5.84%
-- Flow 2:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 40.321 ms
Loss rate: 5.64%
-- Flow 3:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 33.657 ms
Loss rate: 2.94%
Run 3: Report of PCC-Allegro — Data Link

![Graph 1: Throughput (Mbit/s)](image1)

- Flow 1 ingress (mean 88.52 Mbit/s)
- Flow 1 egress (mean 83.35 Mbit/s)
- Flow 2 ingress (mean 2.26 Mbit/s)
- Flow 2 egress (mean 2.13 Mbit/s)
- Flow 3 ingress (mean 8.92 Mbit/s)
- Flow 3 egress (mean 8.66 Mbit/s)

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

- Flow 1 (95th percentile 39.89 ms)
- Flow 2 (95th percentile 40.32 ms)
- Flow 3 (95th percentile 33.66 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2018-06-29 22:06:40
End at: 2018-06-29 22:07:10
Local clock offset: 2.321 ms
Remote clock offset: 1.086 ms

# Below is generated by plot.py at 2018-06-30 00:24:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.58 Mbit/s
  95th percentile per-packet one-way delay: 20.035 ms
  Loss rate: 5.15%
-- Flow 1:
  Average throughput: 81.47 Mbit/s
  95th percentile per-packet one-way delay: 19.656 ms
  Loss rate: 5.13%
-- Flow 2:
  Average throughput: 3.98 Mbit/s
  95th percentile per-packet one-way delay: 18.194 ms
  Loss rate: 5.20%
-- Flow 3:
  Average throughput: 7.46 Mbit/s
  95th percentile per-packet one-way delay: 30.228 ms
  Loss rate: 5.69%
Run 4: Report of PCC-Allegro — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 85.87 Mbps)
- Flow 1 egress (mean 81.47 Mbps)
- Flow 2 ingress (mean 4.20 Mbps)
- Flow 2 egress (mean 3.98 Mbps)
- Flow 3 ingress (mean 7.91 Mbps)
- Flow 3 egress (mean 7.46 Mbps)

**Per-packet one way delay (ms):**
- Flow 1 (95th percentile 19.66 ms)
- Flow 2 (95th percentile 18.19 ms)
- Flow 3 (95th percentile 30.23 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2018-06-29 22:26:12
End at: 2018-06-29 22:26:42
Local clock offset: 2.19 ms
Remote clock offset: 7.136 ms

# Below is generated by plot.py at 2018-06-30 00:24:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.08 Mbit/s
95th percentile per-packet one-way delay: 11.539 ms
Loss rate: 6.28%
-- Flow 1:
Average throughput: 68.82 Mbit/s
95th percentile per-packet one-way delay: 11.518 ms
Loss rate: 6.26%
-- Flow 2:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 11.810 ms
Loss rate: 6.36%
-- Flow 3:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 10.446 ms
Loss rate: 6.98%
Run 5: Report of PCC-Allegro — Data Link

![Graph 1: Throughput](chart1.png)

- **Flow 1 ingress** (mean 73.41 Mbit/s)
- **Flow 1 egress** (mean 68.82 Mbit/s)
- **Flow 2 ingress** (mean 16.29 Mbit/s)
- **Flow 2 egress** (mean 15.25 Mbit/s)
- **Flow 3 ingress** (mean 3.68 Mbit/s)
- **Flow 3 egress** (mean 3.43 Mbit/s)

![Graph 2: Per packet one way delay](chart2.png)

- **Flow 1** (95th percentile 11.52 ms)
- **Flow 2** (95th percentile 11.81 ms)
- **Flow 3** (95th percentile 10.45 ms)
Run 6: Statistics of PCC-Allegro

Start at: 2018-06-29 22:45:42
End at: 2018-06-29 22:46:12
Local clock offset: 2.192 ms
Remote clock offset: 5.798 ms

# Below is generated by plot.py at 2018-06-30 00:24:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.42 Mbit/s
95th percentile per-packet one-way delay: 10.317 ms
Loss rate: 8.41%
-- Flow 1:
Average throughput: 55.44 Mbit/s
95th percentile per-packet one-way delay: 10.325 ms
Loss rate: 8.40%
-- Flow 2:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 10.196 ms
Loss rate: 8.54%
-- Flow 3:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 10.395 ms
Loss rate: 8.83%
Run 6: Report of PCC-Allegro — Data Link

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

![Graph 2: Packet End-to-End Delay vs Time](image2)
Run 7: Statistics of PCC-Allegro

Start at: 2018-06-29 23:05:10
End at: 2018-06-29 23:05:40
Local clock offset: 1.573 ms
Remote clock offset: 3.832 ms

# Below is generated by plot.py at 2018-06-30 00:24:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.66 Mbit/s
95th percentile per-packet one-way delay: 15.827 ms
Loss rate: 8.92%
-- Flow 1:
Average throughput: 67.77 Mbit/s
95th percentile per-packet one-way delay: 15.739 ms
Loss rate: 8.76%
-- Flow 2:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 18.934 ms
Loss rate: 10.01%
-- Flow 3:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 10.330 ms
Loss rate: 9.48%
Run 7: Report of PCC-Allegro — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 74.28 Mbps)
- Flow 1 egress (mean 67.77 Mbps)
- Flow 2 ingress (mean 14.02 Mbps)
- Flow 2 egress (mean 12.62 Mbps)
- Flow 3 ingress (mean 8.37 Mbps)
- Flow 3 egress (mean 7.38 Mbps)

**Packet Delay (ms)**
- Flow 1 (95th percentile 15.74 ms)
- Flow 2 (95th percentile 18.93 ms)
- Flow 3 (95th percentile 10.33 ms)
Run 8: Statistics of PCC-Allegro

Start at: 2018-06-29 23:24:50
Local clock offset: -5.882 ms
Remote clock offset: 1.843 ms

# Below is generated by plot.py at 2018-06-30 00:25:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.62 Mbit/s
95th percentile per-packet one-way delay: 19.418 ms
Loss rate: 6.68%
-- Flow 1:
Average throughput: 71.65 Mbit/s
95th percentile per-packet one-way delay: 19.283 ms
Loss rate: 6.45%
-- Flow 2:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 20.088 ms
Loss rate: 8.13%
-- Flow 3:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 24.400 ms
Loss rate: 9.36%
Run 8: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 76.59 Mbps/s)**
- **Flow 1 egress (mean 71.65 Mbps/s)**
- **Flow 2 ingress (mean 10.00 Mbps/s)**
- **Flow 2 egress (mean 9.30 Mbps/s)**
- **Flow 3 ingress (mean 9.56 Mbps/s)**
- **Flow 3 egress (mean 8.66 Mbps/s)**

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

- **Flow 1 (95th percentile 19.28 ms)**
- **Flow 2 (95th percentile 20.09 ms)**
- **Flow 3 (95th percentile 24.40 ms)**

159
Run 9: Statistics of PCC-Allegro

Start at: 2018-06-29 23:44:34
End at: 2018-06-29 23:45:04
Local clock offset: -0.309 ms
Remote clock offset: -2.098 ms

# Below is generated by plot.py at 2018-06-30 00:25:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.97 Mbit/s
95th percentile per-packet one-way delay: 39.283 ms
Loss rate: 4.50%
-- Flow 1:
Average throughput: 77.22 Mbit/s
95th percentile per-packet one-way delay: 36.463 ms
Loss rate: 4.28%
-- Flow 2:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 43.143 ms
Loss rate: 5.31%
-- Flow 3:
Average throughput: 17.63 Mbit/s
95th percentile per-packet one-way delay: 48.393 ms
Loss rate: 6.96%
Run 9: Report of PCC-Allegro — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 80.66 Mbit/s)
Flow 2 ingress (mean 4.67 Mbit/s)
Flow 3 ingress (mean 18.95 Mbit/s)
Flow 1 egress (mean 77.22 Mbit/s)
Flow 2 egress (mean 4.42 Mbit/s)
Flow 3 egress (mean 17.63 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 36.46 ms)
Flow 2 (95th percentile 43.14 ms)
Flow 3 (95th percentile 48.39 ms)
Run 10: Statistics of PCC-Allegro

Start at: 2018-06-30 00:04:14
End at: 2018-06-30 00:04:44
Local clock offset: -0.519 ms
Remote clock offset: -6.665 ms

# Below is generated by plot.py at 2018-06-30 00:25:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.44 Mbit/s
95th percentile per-packet one-way delay: 29.347 ms
Loss rate: 10.89%
-- Flow 1:
Average throughput: 72.14 Mbit/s
95th percentile per-packet one-way delay: 28.466 ms
Loss rate: 10.92%
-- Flow 2:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 33.614 ms
Loss rate: 9.86%
-- Flow 3:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 43.094 ms
Loss rate: 10.26%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-06-29 21:05:27
End at: 2018-06-29 21:05:57
Local clock offset: 2.48 ms
Remote clock offset: -6.893 ms

# Below is generated by plot.py at 2018-06-30 00:26:05
# Datalink statistics

-- Total of 3 flows:
Average throughput: 80.16 Mbit/s
95th percentile per-packet one-way delay: 16.388 ms
Loss rate: 5.44%

-- Flow 1:
Average throughput: 64.63 Mbit/s
95th percentile per-packet one-way delay: 15.461 ms
Loss rate: 5.37%

-- Flow 2:
Average throughput: 13.60 Mbit/s
95th percentile per-packet one-way delay: 20.913 ms
Loss rate: 4.96%

-- Flow 3:
Average throughput: 19.68 Mbit/s
95th percentile per-packet one-way delay: 18.276 ms
Loss rate: 6.77%
Run 1: Report of PCC-Expr — Data Link

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

**Throughput (Mbps):**
- Blue dashed line: Flow 1 ingress (mean 68.30 Mbps)
- Blue solid line: Flow 1 egress (mean 64.63 Mbps)
- Green dashed line: Flow 2 ingress (mean 14.30 Mbps)
- Green solid line: Flow 2 egress (mean 13.60 Mbps)
- Red dashed line: Flow 3 ingress (mean 21.10 Mbps)
- Red solid line: Flow 3 egress (mean 19.68 Mbps)

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

**Per-packet one-way delay (ms):**
- Blue solid line: Flow 1 (95th percentile 15.46 ms)
- Green solid line: Flow 2 (95th percentile 20.91 ms)
- Red solid line: Flow 3 (95th percentile 18.28 ms)
Run 2: Statistics of PCC-Expr

Start at: 2018-06-29 21:25:00
End at: 2018-06-29 21:25:30
Local clock offset: 1.951 ms
Remote clock offset: -9.688 ms

# Below is generated by plot.py at 2018-06-30 00:26:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.63 Mbit/s
95th percentile per-packet one-way delay: 16.583 ms
Loss rate: 8.37%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 17.505 ms
Loss rate: 8.46%
-- Flow 2:
Average throughput: 23.97 Mbit/s
95th percentile per-packet one-way delay: 12.541 ms
Loss rate: 7.79%
-- Flow 3:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 19.189 ms
Loss rate: 9.75%
Run 2: Report of PCC-Expr — Data Link

![Graph of network throughput over time showing performance of different flows. The graph compares the throughputs and delays of flows 1, 2, and 3, illustrating the network's efficiency and responsiveness.]
Run 3: Statistics of PCC-Expr

Start at: 2018-06-29 21:44:26
End at: 2018-06-29 21:44:56
Local clock offset: 0.991 ms
Remote clock offset: -6.376 ms

# Below is generated by plot.py at 2018-06-30 00:26:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.05 Mbit/s
95th percentile per-packet one-way delay: 25.436 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 66.74 Mbit/s
95th percentile per-packet one-way delay: 25.812 ms
Loss rate: 4.15%
-- Flow 2:
Average throughput: 20.94 Mbit/s
95th percentile per-packet one-way delay: 24.833 ms
Loss rate: 3.93%
-- Flow 3:
Average throughput: 16.29 Mbit/s
95th percentile per-packet one-way delay: 18.884 ms
Loss rate: 3.70%
Run 3: Report of PCC-Expr — Data Link

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

Legend:
- Flow 1 ingress (mean 69.62 Mbit/s)
- Flow 1 egress (mean 66.74 Mbit/s)
- Flow 2 ingress (mean 21.80 Mbit/s)
- Flow 2 egress (mean 20.94 Mbit/s)
- Flow 3 ingress (mean 16.91 Mbit/s)
- Flow 3 egress (mean 16.29 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 25.81 ms)
- Flow 2 (95th percentile 24.83 ms)
- Flow 3 (95th percentile 18.88 ms)
Run 4: Statistics of PCC-Expr

Start at: 2018-06-29 22:04:16
End at: 2018-06-29 22:04:46
Local clock offset: 1.732 ms
Remote clock offset: -0.745 ms

# Below is generated by plot.py at 2018-06-30 00:26:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.55 Mbit/s
  95th percentile per-packet one-way delay: 30.873 ms
  Loss rate: 3.05%
-- Flow 1:
  Average throughput: 56.84 Mbit/s
  95th percentile per-packet one-way delay: 31.944 ms
  Loss rate: 2.78%
-- Flow 2:
  Average throughput: 38.82 Mbit/s
  95th percentile per-packet one-way delay: 26.538 ms
  Loss rate: 3.65%
-- Flow 3:
  Average throughput: 11.80 Mbit/s
  95th percentile per-packet one-way delay: 21.942 ms
  Loss rate: 3.00%
Run 4: Report of PCC-Expr — Data Link

[Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 58.46 Mbps)
- Flow 1 egress (mean 56.84 Mbps)
- Flow 2 ingress (mean 40.30 Mbps)
- Flow 2 egress (mean 38.82 Mbps)
- Flow 3 ingress (mean 12.16 Mbps)
- Flow 3 egress (mean 11.80 Mbps)

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

- Flow 1 (95th percentile 31.94 ms)
- Flow 2 (95th percentile 26.54 ms)
- Flow 3 (95th percentile 21.94 ms)
Run 5: Statistics of PCC-Expr

End at: 2018-06-29 22:24:16
Local clock offset: 2.768 ms
Remote clock offset: 7.103 ms

# Below is generated by plot.py at 2018-06-30 00:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.50 Mbit/s
95th percentile per-packet one-way delay: 29.903 ms
Loss rate: 8.76%
-- Flow 1:
Average throughput: 69.23 Mbit/s
95th percentile per-packet one-way delay: 29.698 ms
Loss rate: 8.79%
-- Flow 2:
Average throughput: 11.06 Mbit/s
95th percentile per-packet one-way delay: 29.973 ms
Loss rate: 8.59%
-- Flow 3:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 34.617 ms
Loss rate: 8.17%
Run 5: Report of PCC-Expr — Data Link

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

Legend:
- Flow 1 ingress (mean 75.90 Mbps)
- Flow 1 egress (mean 69.23 Mbps)
- Flow 2 ingress (mean 12.69 Mbps)
- Flow 2 egress (mean 11.06 Mbps)
- Flow 3 ingress (mean 6.33 Mbps)
- Flow 3 egress (mean 5.81 Mbps)

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

Per-packet one-way delay (ms):
- Flow 1 (95th percentile 29.70 ms)
- Flow 2 (95th percentile 29.97 ms)
- Flow 3 (95th percentile 34.62 ms)
Run 6: Statistics of PCC-Expr

End at: 2018-06-29 22:43:50
Local clock offset: 0.154 ms
Remote clock offset: 5.211 ms

# Below is generated by plot.py at 2018-06-30 00:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.71 Mbit/s
95th percentile per-packet one-way delay: 13.535 ms
Loss rate: 9.21%
-- Flow 1:
Average throughput: 53.56 Mbit/s
95th percentile per-packet one-way delay: 13.646 ms
Loss rate: 9.64%
-- Flow 2:
Average throughput: 20.77 Mbit/s
95th percentile per-packet one-way delay: 12.682 ms
Loss rate: 8.05%
-- Flow 3:
Average throughput: 10.11 Mbit/s
95th percentile per-packet one-way delay: 13.453 ms
Loss rate: 7.05%
Run 6: Report of PCC-Expr — Data Link

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

- **Flow 1 Ingress (mean 59.27 Mbit/s)**
- **Flow 1 Egress (mean 53.56 Mbit/s)**
- **Flow 2 Ingress (mean 22.59 Mbit/s)**
- **Flow 2 Egress (mean 20.77 Mbit/s)**
- **Flow 3 Ingress (mean 10.86 Mbit/s)**
- **Flow 3 Egress (mean 10.11 Mbit/s)**

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

- **Flow 1 (95th percentile 13.65 ms)**
- **Flow 2 (95th percentile 12.68 ms)**
- **Flow 3 (95th percentile 13.45 ms)**
Run 7: Statistics of PCC-Expr

Start at: 2018-06-29 23:02:46
End at: 2018-06-29 23:03:16
Local clock offset: -0.088 ms
Remote clock offset: 4.391 ms

# Below is generated by plot.py at 2018-06-30 00:27:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 73.65 Mbit/s
  95th percentile per-packet one-way delay: 21.752 ms
  Loss rate: 9.98%
-- Flow 1:
  Average throughput: 60.97 Mbit/s
  95th percentile per-packet one-way delay: 22.009 ms
  Loss rate: 9.89%
-- Flow 2:
  Average throughput: 12.46 Mbit/s
  95th percentile per-packet one-way delay: 28.347 ms
  Loss rate: 11.41%
-- Flow 3:
  Average throughput: 13.32 Mbit/s
  95th percentile per-packet one-way delay: 16.060 ms
  Loss rate: 8.50%
Run 7: Report of PCC-Expr — Data Link
Run 8: Statistics of PCC-Expr

Local clock offset: 2.08 ms
Remote clock offset: 1.439 ms

# Below is generated by plot.py at 2018-06-30 00:27:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 84.14 Mbit/s
  95th percentile per-packet one-way delay: 32.148 ms
  Loss rate: 4.98%
-- Flow 1:
  Average throughput: 52.86 Mbit/s
  95th percentile per-packet one-way delay: 26.680 ms
  Loss rate: 4.97%
-- Flow 2:
  Average throughput: 35.71 Mbit/s
  95th percentile per-packet one-way delay: 37.911 ms
  Loss rate: 4.52%
-- Flow 3:
  Average throughput: 22.82 Mbit/s
  95th percentile per-packet one-way delay: 45.559 ms
  Loss rate: 6.47%
Run 8: Report of PCC-Expr — Data Link

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

![Graph 2: Per-packet one way delay vs Time](image2)
Run 9: Statistics of PCC-Expr

Start at: 2018-06-29 23:42:10
End at: 2018-06-29 23:42:40
Local clock offset: 1.52 ms
Remote clock offset: 0.437 ms

# Below is generated by plot.py at 2018-06-30 00:28:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.39 Mbit/s
95th percentile per-packet one-way delay: 44.131 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 61.30 Mbit/s
95th percentile per-packet one-way delay: 43.947 ms
Loss rate: 2.44%
-- Flow 2:
Average throughput: 30.39 Mbit/s
95th percentile per-packet one-way delay: 46.206 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 23.010 ms
Loss rate: 1.82%
Run 9: Report of PCC-Expr — Data Link
Run 10: Statistics of PCC-Expr

Start at: 2018-06-30 00:01:47
End at: 2018-06-30 00:02:17
Local clock offset: 0.595 ms
Remote clock offset: -5.879 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.40 Mbit/s
  95th percentile per-packet one-way delay: 34.707 ms
  Loss rate: 4.61%
-- Flow 1:
  Average throughput: 49.84 Mbit/s
  95th percentile per-packet one-way delay: 34.785 ms
  Loss rate: 5.35%
-- Flow 2:
  Average throughput: 38.88 Mbit/s
  95th percentile per-packet one-way delay: 34.160 ms
  Loss rate: 4.04%
-- Flow 3:
  Average throughput: 32.42 Mbit/s
  95th percentile per-packet one-way delay: 35.643 ms
  Loss rate: 2.46%
Run 10: Report of PCC-Expr — Data Link

![Graph showing throughput and per-packet one-way delay for different flows. The graphs display the throughput and per-packet one-way delay over time for three different flows, with markers indicating the 95th percentile latency for each flow.]
Run 1: Statistics of QUIC Cubic

Start at: 2018-06-29 21:10:16
End at: 2018-06-29 21:10:46
Local clock offset: -0.911 ms
Remote clock offset: -7.631 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics

-- Total of 3 flows:
Average throughput: 49.82 Mbit/s
95th percentile per-packet one-way delay: 34.543 ms
Loss rate: 1.64%

-- Flow 1:
Average throughput: 28.72 Mbit/s
95th percentile per-packet one-way delay: 42.011 ms
Loss rate: 1.40%

-- Flow 2:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 14.671 ms
Loss rate: 0.94%

-- Flow 3:
Average throughput: 22.97 Mbit/s
95th percentile per-packet one-way delay: 19.959 ms
Loss rate: 3.76%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

End at: 2018-06-29 21:30:11
Local clock offset: -2.35 ms
Remote clock offset: -7.157 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.81 Mbit/s
95th percentile per-packet one-way delay: 15.363 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 29.39 Mbit/s
95th percentile per-packet one-way delay: 15.351 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 15.27 Mbit/s
95th percentile per-packet one-way delay: 16.076 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 13.080 ms
Loss rate: 3.07%
Run 2: Report of QUIC Cubic — Data Link

---

**Graph 1:**
- **X-axis:** Time (s)
- **Y-axis:** Throughput (Mb/s)
- **Legend:**
  - Blue dashed line: Flow 1 ingress (mean 29.84 Mb/s)
  - Blue solid line: Flow 1 egress (mean 29.39 Mb/s)
  - Green dashed line: Flow 2 ingress (mean 15.38 Mb/s)
  - Green solid line: Flow 2 egress (mean 15.27 Mb/s)
  - Red dashed line: Flow 3 ingress (mean 10.20 Mb/s)
  - Red solid line: Flow 3 egress (mean 9.89 Mb/s)

**Graph 2:**
- **X-axis:** Time (s)
- **Y-axis:** Per-packet one-way delay (ms)
- **Legend:**
  - Blue line: Flow 1 (95th percentile 15.35 ms)
  - Green line: Flow 2 (95th percentile 16.08 ms)
  - Red line: Flow 3 (95th percentile 13.08 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2018-06-29 21:49:15
End at: 2018-06-29 21:49:45
Local clock offset: -1.743 ms
Remote clock offset: -5.23 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.18 Mbit/s
  95th percentile per-packet one-way delay: 45.250 ms
  Loss rate: 0.83%
-- Flow 1:
  Average throughput: 42.20 Mbit/s
  95th percentile per-packet one-way delay: 43.385 ms
  Loss rate: 0.97%
-- Flow 2:
  Average throughput: 37.19 Mbit/s
  95th percentile per-packet one-way delay: 45.479 ms
  Loss rate: 0.49%
-- Flow 3:
  Average throughput: 31.04 Mbit/s
  95th percentile per-packet one-way delay: 48.654 ms
  Loss rate: 1.10%
Run 3: Report of QUIC Cubic — Data Link

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

Flow 1 ingress (mean 42.65 Mbit/s)
Flow 1 egress (mean 42.20 Mbit/s)
Flow 2 ingress (mean 37.40 Mbit/s)
Flow 2 egress (mean 37.19 Mbit/s)
Flow 3 ingress (mean 31.48 Mbit/s)
Flow 3 egress (mean 31.04 Mbit/s)

Flow 1 (95th percentile 43.38 ms)
Flow 2 (95th percentile 45.48 ms)
Flow 3 (95th percentile 48.65 ms)

189
Run 4: Statistics of QUIC Cubic

Start at: 2018-06-29 22:09:01
End at: 2018-06-29 22:09:31
Local clock offset: 3.61 ms
Remote clock offset: 0.975 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.54 Mbit/s
95th percentile per-packet one-way delay: 12.749 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 13.338 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 25.85 Mbit/s
95th percentile per-packet one-way delay: 9.300 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 20.95 Mbit/s
95th percentile per-packet one-way delay: 18.344 ms
Loss rate: 0.46%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

End at: 2018-06-29 22:29:03
Local clock offset: 0.923 ms
Remote clock offset: 7.771 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.29 Mbit/s
95th percentile per-packet one-way delay: 13.764 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 13.887 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 11.454 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 18.21 Mbit/s
95th percentile per-packet one-way delay: 17.682 ms
Loss rate: 0.96%
Run 5: Report of QUIC Cubic — Data Link

[Graphs showing throughput and per-packet one-way delay over time for different flows, with annotations for mean throughput and 95th percentile delay for each flow.]
Run 6: Statistics of QUIC Cubic

Start at: 2018-06-29 22:48:02
Local clock offset: 1.965 ms
Remote clock offset: 4.408 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 50.47 Mbit/s
  95th percentile per-packet one-way delay: 25.244 ms
  Loss rate: 1.85%
-- Flow 1:
  Average throughput: 29.86 Mbit/s
  95th percentile per-packet one-way delay: 30.903 ms
  Loss rate: 1.48%
-- Flow 2:
  Average throughput: 21.15 Mbit/s
  95th percentile per-packet one-way delay: 15.227 ms
  Loss rate: 1.96%
-- Flow 3:
  Average throughput: 19.84 Mbit/s
  95th percentile per-packet one-way delay: 13.746 ms
  Loss rate: 3.26%
Run 6: Report of QUIC Cubic — Data Link
Run 7: Statistics of QUIC Cubic

Start at: 2018-06-29 23:07:36
End at: 2018-06-29 23:08:06
Local clock offset: 1.871 ms
Remote clock offset: 4.247 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.17 Mbit/s
  95th percentile per-packet one-way delay: 11.761 ms
  Loss rate: 1.90%
-- Flow 1:
  Average throughput: 21.61 Mbit/s
  95th percentile per-packet one-way delay: 17.740 ms
  Loss rate: 2.12%
-- Flow 2:
  Average throughput: 18.96 Mbit/s
  95th percentile per-packet one-way delay: 10.030 ms
  Loss rate: 1.73%
-- Flow 3:
  Average throughput: 15.00 Mbit/s
  95th percentile per-packet one-way delay: 10.108 ms
  Loss rate: 1.38%
Run 7: Report of QUIC Cubic — Data Link

[Graphs showing throughput and packet per-second delay over time for different flows.]
Run 8: Statistics of QUIC Cubic

Start at: 2018-06-29 23:27:12
End at: 2018-06-29 23:27:42
Local clock offset: 1.627 ms
Remote clock offset: 1.962 ms

# Below is generated by plot.py at 2018-06-30 00:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.10 Mbit/s
95th percentile per-packet one-way delay: 42.014 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 29.70 Mbit/s
95th percentile per-packet one-way delay: 42.455 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 19.04 Mbit/s
95th percentile per-packet one-way delay: 13.489 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 17.42 Mbit/s
95th percentile per-packet one-way delay: 12.209 ms
Loss rate: 1.30%
Run 8: Report of QUIC Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 30.11 Mbps)
  - Flow 1 egress (mean 29.70 Mbps)
  - Flow 2 ingress (mean 19.21 Mbps)
  - Flow 2 egress (mean 19.04 Mbps)
  - Flow 3 ingress (mean 17.67 Mbps)
  - Flow 3 egress (mean 17.42 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 42.45 ms)
  - Flow 2 (95th percentile 13.49 ms)
  - Flow 3 (95th percentile 12.21 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-06-29 23:46:56
End at: 2018-06-29 23:47:27
Local clock offset: 2.171 ms
Remote clock offset: -2.246 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.16 Mbit/s
95th percentile per-packet one-way delay: 39.539 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 41.20 Mbit/s
95th percentile per-packet one-way delay: 40.242 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 29.07 Mbit/s
95th percentile per-packet one-way delay: 40.117 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 21.240 ms
Loss rate: 0.57%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-06-30 00:06:35
End at: 2018-06-30 00:07:05
Local clock offset: 2.146 ms
Remote clock offset: -6.884 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.67 Mbit/s
95th percentile per-packet one-way delay: 37.343 ms
Loss rate: 2.71%
-- Flow 1:
Average throughput: 21.30 Mbit/s
95th percentile per-packet one-way delay: 30.294 ms
Loss rate: 2.89%
-- Flow 2:
Average throughput: 18.99 Mbit/s
95th percentile per-packet one-way delay: 39.109 ms
Loss rate: 2.37%
-- Flow 3:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 12.330 ms
Loss rate: 2.77%
Run 10: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2018-06-29 21:00:53
End at: 2018-06-29 21:01:23
Local clock offset: 2.083 ms
Remote clock offset: -4.44 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 9.402 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 9.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 9.081 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 9.503 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

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

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

Start at: 2018-06-29 21:20:27
End at: 2018-06-29 21:20:57
Local clock offset: 0.332 ms
Remote clock offset: -9.44 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 9.806 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 9.808 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 9.808 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 9.784 ms
  Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

![Throughput Graph]

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

![Delay Graph]

- Flow 1 (95th percentile 9.81 ms)
- Flow 2 (95th percentile 9.81 ms)
- Flow 3 (95th percentile 9.78 ms)
Run 3: Statistics of SCReAM

End at: 2018-06-29 21:40:21
Local clock offset: 1.653 ms
Remote clock offset: -6.606 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 8.065 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 6.678 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 8.111 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 6.378 ms
  Loss rate: 0.55%
Run 3: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.21 Mbit/s)
- Flow 1 egress (mean 0.21 Mbit/s)
- Flow 2 ingress (mean 0.21 Mbit/s)
- Flow 2 egress (mean 0.21 Mbit/s)
- Flow 3 ingress (mean 0.16 Mbit/s)
- Flow 3 egress (mean 0.16 Mbit/s)

Per-packet one-way delay (ms)

- Flow 1 (95th percentile 6.68 ms)
- Flow 2 (95th percentile 8.11 ms)
- Flow 3 (95th percentile 6.38 ms)
Run 4: Statistics of SCReAM

Start at: 2018-06-29 21:59:40
End at: 2018-06-29 22:00:10
Local clock offset: 1.935 ms
Remote clock offset: -3.147 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 10.064 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 9.256 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 10.133 ms
  Loss rate: 0.35%
-- Flow 3:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 8.979 ms
  Loss rate: 1.45%
Run 4: Report of SCReAM — Data Link

[Graph showing throughput and latency data]
Run 5: Statistics of SCReAM

End at: 2018-06-29 22:19:43
Local clock offset: 2.168 ms
Remote clock offset: 5.253 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 8.822 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.870 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.651 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 8.625 ms
Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

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

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

- Delay (ms):
  - Flow 1 (95th percentile 8.87 ms)
  - Flow 2 (95th percentile 8.65 ms)
  - Flow 3 (95th percentile 8.62 ms)
Run 6: Statistics of SCReAM

Start at: 2018-06-29 22:38:46
End at: 2018-06-29 22:39:16
Local clock offset: 2.22 ms
Remote clock offset: 5.951 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.31 Mbit/s
  95th percentile per-packet one-way delay: 9.137 ms
  Loss rate: 0.46%
-- Flow 1:
  Average throughput: 0.09 Mbit/s
  95th percentile per-packet one-way delay: 9.082 ms
  Loss rate: 1.51%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 9.211 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 9.057 ms
  Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link

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

- **Flow 1 ingress (mean 0.09 Mbps)**
- **Flow 1 egress (mean 0.09 Mbps)**
- **Flow 2 ingress (mean 0.21 Mbps)**
- **Flow 2 egress (mean 0.21 Mbps)**
- **Flow 3 ingress (mean 0.22 Mbps)**
- **Flow 3 egress (mean 0.22 Mbps)**

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

- **Flow 1 (95th percentile 9.08 ms)**
- **Flow 2 (95th percentile 9.21 ms)**
- **Flow 3 (95th percentile 9.06 ms)**
Run 7: Statistics of SCReAM

Start at: 2018-06-29 22:58:15
End at: 2018-06-29 22:58:45
Local clock offset: 1.709 ms
Remote clock offset: 4.425 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 9.771 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 9.794 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 9.650 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 10.053 ms
Loss rate: 1.57%
Run 7: Report of SCReAM — Data Link

**Graph 1:** Throughput (Mbps)
- Flow 1 ingress (mean 0.16 Mbps)
- Flow 1 egress (mean 0.16 Mbps)
- Flow 2 ingress (mean 0.15 Mbps)
- Flow 2 egress (mean 0.15 Mbps)
- Flow 3 ingress (mean 0.13 Mbps)
- Flow 3 egress (mean 0.13 Mbps)

**Graph 2:** Per-packet one-way delay (ms)
- Flow 1 (95th percentile 9.79 ms)
- Flow 2 (95th percentile 9.05 ms)
- Flow 3 (95th percentile 10.05 ms)
Run 8: Statistics of SCReAM

Start at: 2018-06-29 23:17:55
End at: 2018-06-29 23:18:25
Local clock offset: 1.344 ms
Remote clock offset: 2.034 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 10.183 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 10.132 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.222 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 10.162 ms
Loss rate: 0.00%
Run 8: Report of SCReAM — Data Link

![Graph showing throughput and per-packet one-way delay](image-url)
Run 9: Statistics of SCReAM

Start at: 2018-06-29 23:37:36
End at: 2018-06-29 23:38:06
Local clock offset: 1.178 ms
Remote clock offset: 1.371 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 11.287 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 11.076 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.492 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 12.136 ms
  Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

![Graph 1: Throughput vs Time]

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

Legend:
- Flow 1 ingress (mean 0.15 Mb/s)
- Flow 1 egress (mean 0.15 Mb/s)
- Flow 2 ingress (mean 0.21 Mb/s)
- Flow 2 egress (mean 0.21 Mb/s)
- Flow 3 ingress (mean 0.22 Mb/s)
- Flow 3 egress (mean 0.21 Mb/s)

Flow 1 (95th percentile 11.08 ms)
Flow 2 (95th percentile 11.49 ms)
Flow 3 (95th percentile 12.14 ms)
Run 10: Statistics of SCReAM

Start at: 2018-06-29 23:57:16
End at: 2018-06-29 23:57:46
Local clock offset: 0.413 ms
Remote clock offset: -4.838 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 11.606 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 11.733 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 11.373 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 11.443 ms
Loss rate: 1.30%
Run 10: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

End at: 2018-06-29 21:14:14
Local clock offset: 1.356 ms
Remote clock offset: -7.399 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 19.253 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 20.23 Mbit/s
95th percentile per-packet one-way delay: 18.666 ms
Loss rate: 1.66%
-- Flow 2:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 19.076 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 19.96 Mbit/s
95th percentile per-packet one-way delay: 21.833 ms
Loss rate: 1.33%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-06-29 21:33:07
End at: 2018-06-29 21:33:37
Local clock offset: 0.326 ms
Remote clock offset: -7.471 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.70 Mbit/s
95th percentile per-packet one-way delay: 16.835 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 16.736 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 20.28 Mbit/s
95th percentile per-packet one-way delay: 17.006 ms
Loss rate: 2.07%
-- Flow 3:
Average throughput: 19.52 Mbit/s
95th percentile per-packet one-way delay: 16.676 ms
Loss rate: 2.20%
Run 2: Report of Sprout — Data Link

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

Start at: 2018-06-29 21:52:46
End at: 2018-06-29 21:53:16
Local clock offset: 1.934 ms
Remote clock offset: -5.979 ms

# Below is generated by plot.py at 2018-06-30 00:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 16.793 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 20.82 Mbit/s
95th percentile per-packet one-way delay: 16.230 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 20.03 Mbit/s
95th percentile per-packet one-way delay: 16.918 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 19.67 Mbit/s
95th percentile per-packet one-way delay: 17.644 ms
Loss rate: 1.58%
Run 3: Report of Sprout — Data Link

---

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

```
Flow 1 ingress (mean 20.92 Mbps/s)
Flow 2 ingress (mean 20.18 Mbps/s)
Flow 3 ingress (mean 20.02 Mbps/s)
Flow 1 egress (mean 20.82 Mbps/s)
Flow 2 egress (mean 20.03 Mbps/s)
Flow 3 egress (mean 19.67 Mbps/s)
```

---

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

```
Flow 1 (95th percentile 16.23 ms)
Flow 2 (95th percentile 16.92 ms)
Flow 3 (95th percentile 17.64 ms)
```

---

229
Run 4: Statistics of Sprout

Start at: 2018-06-29 22:12:29
End at: 2018-06-29 22:12:59
Local clock offset: 0.928 ms
Remote clock offset: 3.99 ms

# Below is generated by plot.py at 2018-06-30 00:28:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 18.735 ms
Loss rate: 8.75%
-- Flow 1:
Average throughput: 18.98 Mbit/s
95th percentile per-packet one-way delay: 18.666 ms
Loss rate: 5.71%
-- Flow 2:
Average throughput: 17.51 Mbit/s
95th percentile per-packet one-way delay: 18.712 ms
Loss rate: 10.19%
-- Flow 3:
Average throughput: 15.32 Mbit/s
95th percentile per-packet one-way delay: 19.244 ms
Loss rate: 15.81%
Run 4: Report of Sprout — Data Link

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

- Throughput (Mbps):
  - Flow 1 ingress (mean 20.13 Mbps)
  - Flow 1 egress (mean 18.98 Mbps)
  - Flow 2 ingress (mean 19.30 Mbps)
  - Flow 2 egress (mean 17.51 Mbps)
  - Flow 3 ingress (mean 18.20 Mbps)
  - Flow 3 egress (mean 15.32 Mbps)

- Packet delay (ms):
  - Flow 1 (95th percentile 18.67 ms)
  - Flow 2 (95th percentile 18.71 ms)
  - Flow 3 (95th percentile 19.24 ms)
Run 5: Statistics of Sprout

Start at: 2018-06-29 22:32:01
End at: 2018-06-29 22:32:31
Local clock offset: 1.488 ms
Remote clock offset: 8.854 ms

# Below is generated by plot.py at 2018-06-30 00:28:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 19.241 ms
Loss rate: 3.37%
-- Flow 1:
Average throughput: 20.15 Mbit/s
95th percentile per-packet one-way delay: 18.537 ms
Loss rate: 2.40%
-- Flow 2:
Average throughput: 19.54 Mbit/s
95th percentile per-packet one-way delay: 19.615 ms
Loss rate: 3.73%
-- Flow 3:
Average throughput: 18.73 Mbit/s
95th percentile per-packet one-way delay: 21.069 ms
Loss rate: 5.70%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

Start at: 2018-06-29 22:51:30
End at: 2018-06-29 22:52:00
Local clock offset: -0.349 ms
Remote clock offset: 4.464 ms

# Below is generated by plot.py at 2018-06-30 00:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 20.806 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 20.48 Mbit/s
95th percentile per-packet one-way delay: 19.869 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 20.709 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 23.585 ms
Loss rate: 0.90%
Run 6: Report of Sprout — Data Link
Run 7: Statistics of Sprout

Start at: 2018-06-29 23:11:07
End at: 2018-06-29 23:11:37
Local clock offset: 2.483 ms
Remote clock offset: 3.184 ms

# Below is generated by plot.py at 2018-06-30 00:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.18 Mbit/s
95th percentile per-packet one-way delay: 18.998 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 20.34 Mbit/s
95th percentile per-packet one-way delay: 17.798 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 20.13 Mbit/s
95th percentile per-packet one-way delay: 20.175 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 19.48 Mbit/s
95th percentile per-packet one-way delay: 19.732 ms
Loss rate: 0.56%
Run 7: Report of Sprout — Data Link

![Graph of throughput over time for different flows]

![Graph of packet round-trip times for different flows]

Flow 1 ingress (mean 20.57 Mbit/s)  
Flow 1 egress (mean 20.34 Mbit/s)  
Flow 2 ingress (mean 20.48 Mbit/s)  
Flow 2 egress (mean 20.13 Mbit/s)  
Flow 3 ingress (mean 19.59 Mbit/s)  
Flow 3 egress (mean 19.48 Mbit/s)
Run 8: Statistics of Sprout

Start at: 2018-06-29 23:30:40
End at: 2018-06-29 23:31:10
Local clock offset: 1.902 ms
Remote clock offset: 0.928 ms

# Below is generated by plot.py at 2018-06-30 00:29:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.44 Mbit/s
95th percentile per-packet one-way delay: 18.952 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 20.50 Mbit/s
95th percentile per-packet one-way delay: 18.370 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 20.17 Mbit/s
95th percentile per-packet one-way delay: 19.251 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 19.72 Mbit/s
95th percentile per-packet one-way delay: 19.894 ms
Loss rate: 1.42%
Run 9: Statistics of Sprout

Start at: 2018-06-29 23:50:31
End at: 2018-06-29 23:51:01
Local clock offset: 1.155 ms
Remote clock offset: -3.592 ms

# Below is generated by plot.py at 2018-06-30 00:29:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.01 Mbit/s
95th percentile per-packet one-way delay: 20.372 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 20.79 Mbit/s
95th percentile per-packet one-way delay: 19.322 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 20.45 Mbit/s
95th percentile per-packet one-way delay: 20.638 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 20.01 Mbit/s
95th percentile per-packet one-way delay: 22.493 ms
Loss rate: 0.04%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

Start at: 2018-06-30 00:10:01  
End at: 2018-06-30 00:10:31  
Local clock offset: 2.686 ms  
Remote clock offset: -6.282 ms

# Below is generated by plot.py at 2018-06-30 00:29:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 39.06 Mbit/s  
95th percentile per-packet one-way delay: 17.591 ms  
Loss rate: 3.70%  
-- Flow 1:  
Average throughput: 20.04 Mbit/s  
95th percentile per-packet one-way delay: 17.243 ms  
Loss rate: 2.74%  
-- Flow 2:  
Average throughput: 19.68 Mbit/s  
95th percentile per-packet one-way delay: 17.552 ms  
Loss rate: 3.49%  
-- Flow 3:  
Average throughput: 17.99 Mbit/s  
95th percentile per-packet one-way delay: 19.001 ms  
Loss rate: 7.26%
Run 10: Report of Sprout — Data Link

![Graph showing network throughput and packet delay]

- Flow 1 ingress (mean 20.61 Mbit/s)
- Flow 1 egress (mean 20.04 Mbit/s)
- Flow 2 ingress (mean 20.40 Mbit/s)
- Flow 2 egress (mean 19.68 Mbit/s)
- Flow 3 ingress (mean 19.40 Mbit/s)
- Flow 3 egress (mean 17.99 Mbit/s)
Run 1: Statistics of TaoVA-100x

Start at: 2018-06-29 21:09:01
End at: 2018-06-29 21:09:32
Local clock offset: -1.628 ms
Remote clock offset: -7.566 ms

# Below is generated by plot.py at 2018-06-30 00:30:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 89.61 Mbit/s
  95th percentile per-packet one-way delay: 43.038 ms
  Loss rate: 15.09%
-- Flow 1:
  Average throughput: 53.25 Mbit/s
  95th percentile per-packet one-way delay: 39.340 ms
  Loss rate: 12.56%
-- Flow 2:
  Average throughput: 38.71 Mbit/s
  95th percentile per-packet one-way delay: 43.800 ms
  Loss rate: 17.20%
-- Flow 3:
  Average throughput: 31.82 Mbit/s
  95th percentile per-packet one-way delay: 47.034 ms
  Loss rate: 21.62%
Run 1: Report of TaoVA-100x — Data Link

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

Legend:
- Flow 1 ingress (mean 60.91 Mbit/s)
- Flow 1 egress (mean 53.25 Mbit/s)
- Flow 2 ingress (mean 46.77 Mbit/s)
- Flow 2 egress (mean 38.71 Mbit/s)
- Flow 3 ingress (mean 40.57 Mbit/s)
- Flow 3 egress (mean 31.62 Mbit/s)
Run 2: Statistics of TaoVA-100x

Local clock offset: 1.055 ms
Remote clock offset: -7.414 ms

# Below is generated by plot.py at 2018-06-30 00:30:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 38.331 ms
Loss rate: 10.26%
-- Flow 1:
Average throughput: 56.06 Mbit/s
95th percentile per-packet one-way delay: 34.352 ms
Loss rate: 7.54%
-- Flow 2:
Average throughput: 35.48 Mbit/s
95th percentile per-packet one-way delay: 39.375 ms
Loss rate: 12.20%
-- Flow 3:
Average throughput: 33.86 Mbit/s
95th percentile per-packet one-way delay: 42.049 ms
Loss rate: 18.41%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-06-29 21:48:01
Local clock offset: 1.077 ms
Remote clock offset: -4.981 ms

# Below is generated by plot.py at 2018-06-30 00:31:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.91 Mbit/s
  95th percentile per-packet one-way delay: 33.649 ms
  Loss rate: 2.24%
-- Flow 1:
  Average throughput: 47.81 Mbit/s
  95th percentile per-packet one-way delay: 31.430 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 45.27 Mbit/s
  95th percentile per-packet one-way delay: 35.036 ms
  Loss rate: 2.78%
-- Flow 3:
  Average throughput: 45.01 Mbit/s
  95th percentile per-packet one-way delay: 33.725 ms
  Loss rate: 5.66%
Run 3: Report of TaoVA-100x — Data Link

---

---

---
Run 4: Statistics of TaoVA-100x

End at: 2018-06-29 22:08:18
Local clock offset: 0.555 ms
Remote clock offset: 0.687 ms

# Below is generated by plot.py at 2018-06-30 00:31:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 90.23 Mbit/s
  95th percentile per-packet one-way delay: 37.566 ms
  Loss rate: 10.05%
-- Flow 1:
  Average throughput: 49.83 Mbit/s
  95th percentile per-packet one-way delay: 33.946 ms
  Loss rate: 7.13%
-- Flow 2:
  Average throughput: 42.22 Mbit/s
  95th percentile per-packet one-way delay: 38.455 ms
  Loss rate: 12.34%
-- Flow 3:
  Average throughput: 36.91 Mbit/s
  95th percentile per-packet one-way delay: 43.029 ms
  Loss rate: 15.72%
Run 4: Report of TaoVA-100x — Data Link

![Throughput Graph]

- Flow 1 Ingress (mean 53.68 Mbit/s)
- Flow 1 Egress (mean 49.83 Mbit/s)
- Flow 2 Ingress (mean 48.20 Mbit/s)
- Flow 2 Egress (mean 42.22 Mbit/s)
- Flow 3 Ingress (mean 43.82 Mbit/s)
- Flow 3 Egress (mean 36.91 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 33.95 ms)
- Flow 2 (95th percentile 38.45 ms)
- Flow 3 (95th percentile 43.03 ms)
Run 5: Statistics of TaoVA-100x

Local clock offset: 0.785 ms
Remote clock offset: 7.058 ms

# Below is generated by plot.py at 2018-06-30 00:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.23 Mbit/s
95th percentile per-packet one-way delay: 40.891 ms
Loss rate: 15.94%
-- Flow 1:
Average throughput: 54.04 Mbit/s
95th percentile per-packet one-way delay: 36.019 ms
Loss rate: 13.28%
-- Flow 2:
Average throughput: 38.70 Mbit/s
95th percentile per-packet one-way delay: 41.914 ms
Loss rate: 18.29%
-- Flow 3:
Average throughput: 31.25 Mbit/s
95th percentile per-packet one-way delay: 45.449 ms
Loss rate: 22.71%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

End at: 2018-06-29 22:47:19
Local clock offset: -0.079 ms
Remote clock offset: 5.445 ms

# Below is generated by plot.py at 2018-06-30 00:31:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.30 Mbit/s
95th percentile per-packet one-way delay: 43.751 ms
Loss rate: 16.21%
-- Flow 1:
Average throughput: 53.09 Mbit/s
95th percentile per-packet one-way delay: 39.283 ms
Loss rate: 14.19%
-- Flow 2:
Average throughput: 38.65 Mbit/s
95th percentile per-packet one-way delay: 44.711 ms
Loss rate: 17.84%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 47.660 ms
Loss rate: 21.72%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Start at: 2018-06-29 23:06:20
End at: 2018-06-29 23:06:50
Local clock offset: -0.706 ms
Remote clock offset: 3.708 ms

# Below is generated by plot.py at 2018-06-30 00:31:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 89.04 Mbit/s
  95th percentile per-packet one-way delay: 35.647 ms
  Loss rate: 12.75%
-- Flow 1:
  Average throughput: 50.94 Mbit/s
  95th percentile per-packet one-way delay: 31.425 ms
  Loss rate: 11.53%
-- Flow 2:
  Average throughput: 41.75 Mbit/s
  95th percentile per-packet one-way delay: 36.910 ms
  Loss rate: 13.82%
-- Flow 3:
  Average throughput: 30.98 Mbit/s
  95th percentile per-packet one-way delay: 41.883 ms
  Loss rate: 15.67%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

End at: 2018-06-29 23:26:28
Local clock offset: 2.214 ms
Remote clock offset: 1.506 ms

# Below is generated by plot.py at 2018-06-30 00:31:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.87 Mbit/s
  95th percentile per-packet one-way delay: 41.676 ms
  Loss rate: 10.72%
-- Flow 1:
  Average throughput: 55.23 Mbit/s
  95th percentile per-packet one-way delay: 38.800 ms
  Loss rate: 7.55%
-- Flow 2:
  Average throughput: 39.21 Mbit/s
  95th percentile per-packet one-way delay: 42.404 ms
  Loss rate: 12.52%
-- Flow 3:
  Average throughput: 31.67 Mbit/s
  95th percentile per-packet one-way delay: 45.277 ms
  Loss rate: 20.93%
Run 8: Report of TaoVA-100x — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 59.76 Mbps)
- **Flow 1 egress** (mean 55.23 Mbps)
- **Flow 2 ingress** (mean 44.84 Mbps)
- **Flow 2 egress** (mean 39.21 Mbps)
- **Flow 3 ingress** (mean 40.02 Mbps)
- **Flow 3 egress** (mean 31.67 Mbps)

---

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

- **Flow 1** (95th percentile 38.80 ms)
- **Flow 2** (95th percentile 42.40 ms)
- **Flow 3** (95th percentile 45.28 ms)

---

259
Run 9: Statistics of TaoVA-100x

Start at: 2018-06-29 23:45:42  
End at: 2018-06-29 23:46:12  
Local clock offset: 1.349 ms  
Remote clock offset: -2.07 ms  

# Below is generated by plot.py at 2018-06-30 00:33:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.30 Mbit/s  
95th percentile per-packet one-way delay: 41.558 ms  
Loss rate: 13.08%  
-- Flow 1:  
Average throughput: 55.86 Mbit/s  
95th percentile per-packet one-way delay: 36.906 ms  
Loss rate: 9.02%  
-- Flow 2:  
Average throughput: 37.68 Mbit/s  
95th percentile per-packet one-way delay: 42.735 ms  
Loss rate: 16.83%  
-- Flow 3:  
Average throughput: 31.08 Mbit/s  
95th percentile per-packet one-way delay: 45.909 ms  
Loss rate: 23.21%
Run 9: Report of TaoVA-100x — Data Link

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

- **Flow 1 Ingress** (mean 61.43 Mbps/s)
- **Flow 1 Egress** (mean 55.86 Mbps/s)
- **Flow 2 Ingress** (mean 45.34 Mbps/s)
- **Flow 2 Egress** (mean 37.68 Mbps/s)
- **Flow 3 Ingress** (mean 40.50 Mbps/s)
- **Flow 3 Egress** (mean 31.08 Mbps/s)

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

- **Flow 1** (95th percentile 36.91 ms)
- **Flow 2** (95th percentile 42.73 ms)
- **Flow 3** (95th percentile 45.91 ms)

261
Run 10: Statistics of TaoVA-100x

Start at: 2018-06-30 00:05:22
End at: 2018-06-30 00:05:52
Local clock offset: 0.928 ms
Remote clock offset: -6.495 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.39 Mbit/s
  95th percentile per-packet one-way delay: 40.788 ms
  Loss rate: 16.33%
-- Flow 1:
  Average throughput: 55.06 Mbit/s
  95th percentile per-packet one-way delay: 36.425 ms
  Loss rate: 14.64%
-- Flow 2:
  Average throughput: 34.24 Mbit/s
  95th percentile per-packet one-way delay: 42.185 ms
  Loss rate: 17.44%
-- Flow 3:
  Average throughput: 31.57 Mbit/s
  95th percentile per-packet one-way delay: 44.819 ms
  Loss rate: 22.14%
Run 10: Report of TaoVA-100x — Data Link

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

- **Flow 1 Ingress** (mean 64.57 Mbit/s)
- **Flow 1 Egress** (mean 55.06 Mbit/s)
- **Flow 2 Ingress** (mean 41.33 Mbit/s)
- **Flow 2 Egress** (mean 34.24 Mbit/s)
- **Flow 3 Ingress** (mean 40.67 Mbit/s)
- **Flow 3 Egress** (mean 31.57 Mbit/s)

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

- **Flow 1** (95th percentile 36.42 ms)
- **Flow 2** (95th percentile 42.19 ms)
- **Flow 3** (95th percentile 44.82 ms)
Run 1: Statistics of TCP Vegas

Start at: 2018-06-29 21:14:51
End at: 2018-06-29 21:15:21
Local clock offset: 0.401 ms
Remote clock offset: -8.875 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.93 Mbit/s
95th percentile per-packet one-way delay: 22.928 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 22.389 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 10.671 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 15.76 Mbit/s
95th percentile per-packet one-way delay: 33.081 ms
Loss rate: 0.42%
Run 1: Report of TCP Vegas — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 20.36 Mb/s)
Flow 1 egress (mean 20.31 Mb/s)
Flow 2 ingress (mean 12.65 Mb/s)
Flow 2 egress (mean 12.58 Mb/s)
Flow 3 ingress (mean 15.82 Mb/s)
Flow 3 egress (mean 15.76 Mb/s)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 22.39 ms)
Flow 2 (95th percentile 10.67 ms)
Flow 3 (95th percentile 33.08 ms)
Run 2: Statistics of TCP Vegas

Start at: 2018-06-29 21:34:14
End at: 2018-06-29 21:34:44
Local clock offset: 0.331 ms
Remote clock offset: -6.524 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 44.41 Mbit/s
  95th percentile per-packet one-way delay: 19.642 ms
  Loss rate: 0.87%
  -- Flow 1:
  Average throughput: 26.64 Mbit/s
  95th percentile per-packet one-way delay: 19.992 ms
  Loss rate: 0.74%
  -- Flow 2:
  Average throughput: 17.95 Mbit/s
  95th percentile per-packet one-way delay: 17.302 ms
  Loss rate: 1.49%
  -- Flow 3:
  Average throughput: 17.49 Mbit/s
  95th percentile per-packet one-way delay: 10.306 ms
  Loss rate: 0.18%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-06-29 21:53:54
End at: 2018-06-29 21:54:24
Local clock offset: 1.835 ms
Remote clock offset: -5.339 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.78 Mbit/s
95th percentile per-packet one-way delay: 15.834 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 18.354 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 24.75 Mbit/s
95th percentile per-packet one-way delay: 9.548 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 10.689 ms
Loss rate: 0.09%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

End at: 2018-06-29 22:14:07
Local clock offset: -0.406 ms
Remote clock offset: 5.02 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.21 Mbit/s
95th percentile per-packet one-way delay: 20.450 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 19.99 Mbit/s
95th percentile per-packet one-way delay: 20.761 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 16.00 Mbit/s
95th percentile per-packet one-way delay: 19.579 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 16.74 Mbit/s
95th percentile per-packet one-way delay: 25.099 ms
Loss rate: 0.33%
Run 4: Report of TCP Vegas — Data Link

![Throughput vs Time](image1)

- Flow 1 ingress (mean 20.44 Mbit/s)
- Flow 1 egress (mean 19.99 Mbit/s)
- Flow 2 ingress (mean 16.04 Mbit/s)
- Flow 2 egress (mean 16.00 Mbit/s)
- Flow 3 ingress (mean 16.80 Mbit/s)
- Flow 3 egress (mean 16.74 Mbit/s)

![Per packet one way delay vs Time](image2)

- Flow 1 (95th percentile 20.76 ms)
- Flow 2 (95th percentile 19.58 ms)
- Flow 3 (95th percentile 25.10 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-06-29 22:33:08
End at: 2018-06-29 22:33:38
Local clock offset: 2.142 ms
Remote clock offset: 8.433 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 25.99 Mbit/s
  95th percentile per-packet one-way delay: 10.386 ms
  Loss rate: 0.58%
  -- Flow 1:
    Average throughput: 14.82 Mbit/s
    95th percentile per-packet one-way delay: 10.416 ms
    Loss rate: 0.36%
  -- Flow 2:
    Average throughput: 11.64 Mbit/s
    95th percentile per-packet one-way delay: 10.362 ms
    Loss rate: 0.75%
  -- Flow 3:
    Average throughput: 10.29 Mbit/s
    95th percentile per-packet one-way delay: 10.307 ms
    Loss rate: 1.12%
Run 6: Statistics of TCP Vegas

End at: 2018-06-29 22:53:07  
Local clock offset: 1.224 ms  
Remote clock offset: 5.32 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 12.165 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 27.49 Mbit/s
95th percentile per-packet one-way delay: 11.638 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 23.26 Mbit/s
95th percentile per-packet one-way delay: 11.948 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 33.747 ms
Loss rate: 0.16%

274
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-06-29 23:12:17
End at: 2018-06-29 23:12:47
Local clock offset: 0.922 ms
Remote clock offset: 3.908 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 31.89 Mbit/s
  95th percentile per-packet one-way delay: 12.746 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 18.98 Mbit/s
  95th percentile per-packet one-way delay: 12.805 ms
  Loss rate: 0.98%
-- Flow 2:
  Average throughput: 12.61 Mbit/s
  95th percentile per-packet one-way delay: 12.822 ms
  Loss rate: 0.24%
-- Flow 3:
  Average throughput: 14.84 Mbit/s
  95th percentile per-packet one-way delay: 12.548 ms
  Loss rate: 0.22%
Run 7: Report of TCP Vegas — Data Link

Graph 1: Throughput over time (Mbps)

Graph 2: Per packet end-to-end delay (ms)

Legend:
- Flow 1 ingress (mean 19.17 Mbps)
- Flow 1 egress (mean 18.98 Mbps)
- Flow 2 ingress (mean 12.01 Mbps)
- Flow 2 egress (mean 12.61 Mbps)
- Flow 3 ingress (mean 14.87 Mbps)
- Flow 3 egress (mean 14.84 Mbps)
Run 8: Statistics of TCP Vegas

Start at: 2018-06-29 23:31:50
End at: 2018-06-29 23:32:20
Local clock offset: 3.616 ms
Remote clock offset: 0.972 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 50.52 Mbit/s
  95th percentile per-packet one-way delay: 33.366 ms
  Loss rate: 0.38%
-- Flow 1:
  Average throughput: 27.54 Mbit/s
  95th percentile per-packet one-way delay: 19.161 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 22.91 Mbit/s
  95th percentile per-packet one-way delay: 35.148 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 23.19 Mbit/s
  95th percentile per-packet one-way delay: 12.556 ms
  Loss rate: 0.07%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-06-29 23:51:39
End at: 2018-06-29 23:52:09
Local clock offset: 2.416 ms
Remote clock offset: -3.76 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.13 Mbit/s
95th percentile per-packet one-way delay: 18.553 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 40.23 Mbit/s
95th percentile per-packet one-way delay: 19.733 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 27.03 Mbit/s
95th percentile per-packet one-way delay: 11.662 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 20.77 Mbit/s
95th percentile per-packet one-way delay: 13.771 ms
Loss rate: 0.12%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

Start at: 2018-06-30 00:11:10
End at: 2018-06-30 00:11:40
Local clock offset: 3.069 ms
Remote clock offset: -7.713 ms

# Below is generated by plot.py at 2018-06-30 00:33:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 25.69 Mbit/s
  95th percentile per-packet one-way delay: 27.366 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 12.55 Mbit/s
  95th percentile per-packet one-way delay: 8.778 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 13.71 Mbit/s
  95th percentile per-packet one-way delay: 28.584 ms
  Loss rate: 0.45%
-- Flow 3:
  Average throughput: 12.05 Mbit/s
  95th percentile per-packet one-way delay: 26.465 ms
  Loss rate: 0.85%

282
Run 10: Report of TCP Vegas — Data Link

---

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

---

283
Run 1: Statistics of Verus

Start at: 2018-06-29 21:03:04
End at: 2018-06-29 21:03:34
Local clock offset: 1.487 ms
Remote clock offset: -5.378 ms

# Below is generated by plot.py at 2018-06-30 00:33:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 57.139 ms
Loss rate: 64.99%
-- Flow 1:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 37.646 ms
Loss rate: 20.93%
-- Flow 2:
Average throughput: 43.55 Mbit/s
95th percentile per-packet one-way delay: 71.404 ms
Loss rate: 80.03%
-- Flow 3:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 43.978 ms
Loss rate: 46.25%
Run 1: Report of Verus — Data Link
Run 2: Statistics of Verus

End at: 2018-06-29 21:23:08
Local clock offset: -0.04 ms
Remote clock offset: -9.091 ms

# Below is generated by plot.py at 2018-06-30 00:33:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.98 Mbit/s
95th percentile per-packet one-way delay: 42.985 ms
Loss rate: 24.13%
-- Flow 1:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 39.938 ms
Loss rate: 15.41%
-- Flow 2:
Average throughput: 22.24 Mbit/s
95th percentile per-packet one-way delay: 45.823 ms
Loss rate: 39.04%
-- Flow 3:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 46.108 ms
Loss rate: 42.18%
Run 2: Report of Verus — Data Link

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

**Throughput (Mbit/s):**
- Flow 1 ingress: mean 59.42 Mbit/s
- Flow 1 egress: mean 50.21 Mbit/s
- Flow 2 ingress: mean 36.54 Mbit/s
- Flow 2 egress: mean 22.24 Mbit/s
- Flow 3 ingress: mean 28.65 Mbit/s
- Flow 3 egress: mean 18.61 Mbit/s

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile: 39.94 ms)
- Flow 2 (95th percentile: 45.82 ms)
- Flow 3 (95th percentile: 46.11 ms)
Run 3: Statistics of Verus

Start at: 2018-06-29 21:42:03
End at: 2018-06-29 21:42:33
Local clock offset: -0.57 ms
Remote clock offset: -5.745 ms

# Below is generated by plot.py at 2018-06-30 00:33:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 72.03 Mbit/s
  95th percentile per-packet one-way delay: 43.261 ms
  Loss rate: 26.69%
-- Flow 1:
  Average throughput: 51.92 Mbit/s
  95th percentile per-packet one-way delay: 40.346 ms
  Loss rate: 15.82%
-- Flow 2:
  Average throughput: 19.21 Mbit/s
  95th percentile per-packet one-way delay: 46.867 ms
  Loss rate: 45.22%
-- Flow 3:
  Average throughput: 24.65 Mbit/s
  95th percentile per-packet one-way delay: 45.950 ms
  Loss rate: 44.68%
Run 3: Report of Verus — Data Link

![Graph 1: Throughput (Mbps) over Time (s)]
- Flow 1 ingress (mean 61.67 Mbps)
- Flow 1 egress (mean 51.92 Mbps)
- Flow 2 ingress (mean 35.07 Mbps)
- Flow 2 egress (mean 19.21 Mbps)
- Flow 3 ingress (mean 40.07 Mbps)
- Flow 3 egress (mean 24.65 Mbps)

![Graph 2: Per-packet one-way delay (ms) over Time (s)]
- Flow 1 (95th percentile 40.35 ms)
- Flow 2 (95th percentile 46.87 ms)
- Flow 3 (95th percentile 45.95 ms)
Run 4: Statistics of Verus

Start at: 2018-06-29 22:01:54
End at: 2018-06-29 22:02:24
Local clock offset: 0.088 ms
Remote clock offset: -1.934 ms

# Below is generated by plot.py at 2018-06-30 00:33:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.98 Mbit/s
95th percentile per-packet one-way delay: 43.815 ms
Loss rate: 26.47%
-- Flow 1:
Average throughput: 43.01 Mbit/s
95th percentile per-packet one-way delay: 41.493 ms
Loss rate: 13.79%
-- Flow 2:
Average throughput: 29.58 Mbit/s
95th percentile per-packet one-way delay: 45.736 ms
Loss rate: 43.61%
-- Flow 3:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 45.801 ms
Loss rate: 28.85%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

End at: 2018-06-29 22:21:56
Local clock offset: 2.009 ms
Remote clock offset: 5.759 ms

# Below is generated by plot.py at 2018-06-30 00:33:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.68 Mbit/s
95th percentile per-packet one-way delay: 39.470 ms
Loss rate: 18.65%
-- Flow 1:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 36.304 ms
Loss rate: 18.52%
-- Flow 2:
Average throughput: 34.47 Mbit/s
95th percentile per-packet one-way delay: 41.582 ms
Loss rate: 15.66%
-- Flow 3:
Average throughput: 29.03 Mbit/s
95th percentile per-packet one-way delay: 41.941 ms
Loss rate: 25.43%
Run 5: Report of Verus — Data Link

-- Diagrams --

Throughput (Mb/s) vs Time (s)

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

Legend:
- Flow 1 ingress (mean 49.31 Mb/s)
- Flow 1 egress (mean 40.14 Mb/s)
- Flow 2 ingress (mean 40.93 Mb/s)
- Flow 2 egress (mean 34.47 Mb/s)
- Flow 3 ingress (mean 39.06 Mb/s)
- Flow 3 egress (mean 29.03 Mb/s)

Legend:
- Flow 1 (95th percentile 36.30 ms)
- Flow 2 (95th percentile 41.58 ms)
- Flow 3 (95th percentile 41.94 ms)
Run 6: Statistics of Verus

Start at: 2018-06-29 22:40:57
End at: 2018-06-29 22:41:27
Local clock offset: 0.727 ms
Remote clock offset: 5.555 ms

# Below is generated by plot.py at 2018-06-30 00:33:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 59.59 Mbit/s
  95th percentile per-packet one-way delay: 45.576 ms
  Loss rate: 53.15%
-- Flow 1:
  Average throughput: 33.74 Mbit/s
  95th percentile per-packet one-way delay: 43.744 ms
  Loss rate: 56.85%
-- Flow 2:
  Average throughput: 24.13 Mbit/s
  95th percentile per-packet one-way delay: 46.884 ms
  Loss rate: 47.30%
-- Flow 3:
  Average throughput: 33.44 Mbit/s
  95th percentile per-packet one-way delay: 46.779 ms
  Loss rate: 47.15%
Run 6: Report of Verus — Data Link

[Graph showing data link throughput and per-packet one-way delay over time for different flows with annotations on the graphs.]
Run 7: Statistics of Verus

Start at: 2018-06-29 23:00:27
End at: 2018-06-29 23:00:57
Local clock offset: 1.102 ms
Remote clock offset: 4.117 ms

# Below is generated by plot.py at 2018-06-30 00:34:02
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 59.64 Mbit/s
 95th percentile per-packet one-way delay: 45.177 ms
 Loss rate: 59.75%
-- Flow 1:
 Average throughput: 43.09 Mbit/s
 95th percentile per-packet one-way delay: 45.343 ms
 Loss rate: 63.60%
-- Flow 2:
 Average throughput: 20.09 Mbit/s
 95th percentile per-packet one-way delay: 45.336 ms
 Loss rate: 47.70%
-- Flow 3:
 Average throughput: 13.89 Mbit/s
 95th percentile per-packet one-way delay: 38.424 ms
 Loss rate: 28.96%
Run 7: Report of Verus — Data Link
Run 8: Statistics of Verus

Start at: 2018-06-29 23:20:06
End at: 2018-06-29 23:20:36
Local clock offset: -0.067 ms
Remote clock offset: 1.48 ms

# Below is generated by plot.py at 2018-06-30 00:34:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.29 Mbit/s
95th percentile per-packet one-way delay: 44.739 ms
Loss rate: 37.08%
-- Flow 1:
Average throughput: 46.88 Mbit/s
95th percentile per-packet one-way delay: 41.925 ms
Loss rate: 20.75%
-- Flow 2:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 46.062 ms
Loss rate: 35.21%
-- Flow 3:
Average throughput: 15.15 Mbit/s
95th percentile per-packet one-way delay: 51.844 ms
Loss rate: 79.23%
Run 8: Report of Verus — Data Link

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

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 59.13 Mbps) - Flow 1 egress (mean 46.88 Mbps)
Flow 2 ingress (mean 66.64 Mbps) - Flow 2 egress (mean 30.26 Mbps)
Flow 3 ingress (mean 72.91 Mbps) - Flow 3 egress (mean 15.15 Mbps)

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

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 41.92 ms) - Flow 2 (95th percentile 46.06 ms) - Flow 3 (95th percentile 51.84 ms)
Run 9: Statistics of Verus

End at: 2018-06-29 23:40:20
Local clock offset: 2.034 ms
Remote clock offset: 0.522 ms

# Below is generated by plot.py at 2018-06-30 00:34:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.42 Mbit/s
95th percentile per-packet one-way delay: 43.178 ms
Loss rate: 35.17%
-- Flow 1:
Average throughput: 49.48 Mbit/s
95th percentile per-packet one-way delay: 42.272 ms
Loss rate: 33.94%
-- Flow 2:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 44.460 ms
Loss rate: 37.76%
-- Flow 3:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 41.536 ms
Loss rate: 25.19%
Run 9: Report of Verus — Data Link
Run 10: Statistics of Verus

Start at: 2018-06-29 23:59:27
End at: 2018-06-29 23:59:57
Local clock offset: -0.446 ms
Remote clock offset: -5.975 ms

# Below is generated by plot.py at 2018-06-30 00:34:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 67.62 Mbit/s
  95th percentile per-packet one-way delay: 45.192 ms
  Loss rate: 40.59%
-- Flow 1:
  Average throughput: 38.53 Mbit/s
  95th percentile per-packet one-way delay: 40.400 ms
  Loss rate: 13.04%
-- Flow 2:
  Average throughput: 32.43 Mbit/s
  95th percentile per-packet one-way delay: 48.687 ms
  Loss rate: 62.73%
-- Flow 3:
  Average throughput: 23.70 Mbit/s
  95th percentile per-packet one-way delay: 45.512 ms
  Loss rate: 34.75%
Run 10: Report of Verus — Data Link
Run 1: Statistics of PCC-Vivace

Start at: 2018-06-29 21:04:16
End at: 2018-06-29 21:04:46
Local clock offset: 0.839 ms
Remote clock offset: -5.846 ms

# Below is generated by plot.py at 2018-06-30 00:34:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.53 Mbit/s
95th percentile per-packet one-way delay: 11.264 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 55.81 Mbit/s
95th percentile per-packet one-way delay: 11.195 ms
Loss rate: 3.72%
-- Flow 2:
Average throughput: 16.29 Mbit/s
95th percentile per-packet one-way delay: 12.453 ms
Loss rate: 5.12%
-- Flow 3:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 11.137 ms
Loss rate: 4.51%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

End at: 2018-06-29 21:24:20
Local clock offset: 0.731 ms
Remote clock offset: -9.698 ms

# Below is generated by plot.py at 2018-06-30 00:34:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 67.94 Mbit/s
  95th percentile per-packet one-way delay: 18.582 ms
  Loss rate: 2.85%
-- Flow 1:
  Average throughput: 45.76 Mbit/s
  95th percentile per-packet one-way delay: 23.341 ms
  Loss rate: 3.43%
-- Flow 2:
  Average throughput: 22.05 Mbit/s
  95th percentile per-packet one-way delay: 14.578 ms
  Loss rate: 1.63%
-- Flow 3:
  Average throughput: 22.78 Mbit/s
  95th percentile per-packet one-way delay: 11.398 ms
  Loss rate: 1.59%
Run 3: Statistics of PCC-Vivace

Start at: 2018-06-29 21:43:15
End at: 2018-06-29 21:43:45
Local clock offset: -0.729 ms
Remote clock offset: -5.66 ms

# Below is generated by plot.py at 2018-06-30 00:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.74 Mbit/s
95th percentile per-packet one-way delay: 14.362 ms
Loss rate: 2.84%
-- Flow 1:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 16.046 ms
Loss rate: 2.84%
-- Flow 2:
Average throughput: 30.22 Mbit/s
95th percentile per-packet one-way delay: 13.321 ms
Loss rate: 2.69%
-- Flow 3:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 10.994 ms
Loss rate: 3.32%
Run 3: Report of PCC-Vivace — Data Link

[Graph 1] Throughput (Mbps) over time for different flows.

[Graph 2] Packet delay (ms) over time for different flows.

Legend:
- Flow 1 ingress (mean 51.55 Mbps)
- Flow 1 egress (mean 50.08 Mbps)
- Flow 2 ingress (mean 31.05 Mbps)
- Flow 2 egress (mean 30.22 Mbps)
- Flow 3 ingress (mean 17.41 Mbps)
- Flow 3 egress (mean 16.83 Mbps)
Run 4: Statistics of PCC-Vivace

Start at: 2018-06-29 22:03:05
End at: 2018-06-29 22:03:35
Local clock offset: 1.315 ms
Remote clock offset: -1.126 ms

# Below is generated by plot.py at 2018-06-30 00:34:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.62 Mbit/s
95th percentile per-packet one-way delay: 12.781 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 12.166 ms
Loss rate: 4.13%
-- Flow 2:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 13.183 ms
Loss rate: 4.33%
-- Flow 3:
Average throughput: 14.74 Mbit/s
95th percentile per-packet one-way delay: 23.448 ms
Loss rate: 5.90%
Run 4: Report of PCC-Vivace — Data Link

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

- **Flow 1 Ingress** (mean 59.37 Mbps/s)
- **Flow 1 Egress** (mean 56.92 Mbps/s)
- **Flow 2 Ingress** (mean 24.88 Mbps/s)
- **Flow 2 Egress** (mean 23.81 Mbps/s)
- **Flow 3 Ingress** (mean 15.66 Mbps/s)
- **Flow 3 Egress** (mean 14.74 Mbps/s)

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

- **Flow 1** (95th percentile 12.17 ms)
- **Flow 2** (95th percentile 13.18 ms)
- **Flow 3** (95th percentile 23.45 ms)
Run 5: Statistics of PCC-Vivace

End at: 2018-06-29 22:23:06
Local clock offset: 0.697 ms
Remote clock offset: 6.404 ms

# Below is generated by plot.py at 2018-06-30 00:35:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.96 Mbit/s
95th percentile per-packet one-way delay: 14.529 ms
Loss rate: 6.00%

-- Flow 1:
Average throughput: 44.77 Mbit/s
95th percentile per-packet one-way delay: 15.525 ms
Loss rate: 5.60%

-- Flow 2:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 10.955 ms
Loss rate: 6.61%

-- Flow 3:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 10.678 ms
Loss rate: 7.40%
Run 5: Report of PCC-Vivace — Data Link
Run 6: Statistics of PCC-Vivace

Local clock offset: 0.192 ms
Remote clock offset: 4.615 ms

# Below is generated by plot.py at 2018-06-30 00:35:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.57 Mbit/s
95th percentile per-packet one-way delay: 10.714 ms
Loss rate: 6.66%

-- Flow 1:
Average throughput: 34.03 Mbit/s
95th percentile per-packet one-way delay: 10.569 ms
Loss rate: 5.44%

-- Flow 2:
Average throughput: 35.42 Mbit/s
95th percentile per-packet one-way delay: 10.898 ms
Loss rate: 8.28%

-- Flow 3:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 10.444 ms
Loss rate: 7.71%
Run 6: Report of PCC-Vivace — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 35.99 Mbps)
  - Flow 1 egress (mean 34.03 Mbps)
  - Flow 2 ingress (mean 38.62 Mbps)
  - Flow 2 egress (mean 35.42 Mbps)
  - Flow 3 ingress (mean 6.50 Mbps)
  - Flow 3 egress (mean 6.00 Mbps)

- **Packet round-trip time (ms)**
  - Flow 1 (95th percentile 10.57 ms)
  - Flow 2 (95th percentile 10.90 ms)
  - Flow 3 (95th percentile 10.44 ms)
Run 7: Statistics of PCC-Vivace

Start at: 2018-06-29 23:01:37
End at: 2018-06-29 23:02:07
Local clock offset: 0.031 ms
Remote clock offset: 3.681 ms

# Below is generated by plot.py at 2018-06-30 00:35:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 46.45 Mbit/s
  95th percentile per-packet one-way delay: 10.908 ms
  Loss rate: 5.38%
-- Flow 1:
  Average throughput: 31.04 Mbit/s
  95th percentile per-packet one-way delay: 10.561 ms
  Loss rate: 4.80%
-- Flow 2:
  Average throughput: 20.74 Mbit/s
  95th percentile per-packet one-way delay: 12.342 ms
  Loss rate: 6.77%
-- Flow 3:
  Average throughput: 5.00 Mbit/s
  95th percentile per-packet one-way delay: 11.128 ms
  Loss rate: 4.42%
Run 7: Report of PCC-Vivace — Data Link

**Throughput (Mbps)**

- Flow 1 ingress (mean 32.61 Mbps)
- Flow 2 ingress (mean 22.25 Mbps)
- Flow 3 ingress (mean 5.09 Mbps)
- Flow 1 egress (mean 31.04 Mbps)
- Flow 2 egress (mean 20.74 Mbps)
- Flow 3 egress (mean 5.00 Mbps)

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

- Flow 1 (95th percentile 10.56 ms)
- Flow 2 (95th percentile 12.34 ms)
- Flow 3 (95th percentile 11.13 ms)
Run 8: Statistics of PCC-Vivace

End at: 2018-06-29 23:21:46
Local clock offset: -0.233 ms
Remote clock offset: 1.865 ms

# Below is generated by plot.py at 2018-06-30 00:35:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 66.84 Mbit/s
  95th percentile per-packet one-way delay: 13.155 ms
  Loss rate: 3.74%
-- Flow 1:
  Average throughput: 38.24 Mbit/s
  95th percentile per-packet one-way delay: 13.137 ms
  Loss rate: 3.58%
-- Flow 2:
  Average throughput: 36.47 Mbit/s
  95th percentile per-packet one-way delay: 13.156 ms
  Loss rate: 4.09%
-- Flow 3:
  Average throughput: 13.16 Mbit/s
  95th percentile per-packet one-way delay: 13.266 ms
  Loss rate: 3.13%
Run 8: Report of PCC-Vivace — Data Link
Run 9: Statistics of PCC-Vivace

Start at: 2018-06-29 23:41:00
End at: 2018-06-29 23:41:31
Local clock offset: 0.903 ms
Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 75.28 Mbit/s
  95th percentile per-packet one-way delay: 12.789 ms
  Loss rate: 2.32%
-- Flow 1:
  Average throughput: 61.81 Mbit/s
  95th percentile per-packet one-way delay: 12.895 ms
  Loss rate: 2.42%
-- Flow 2:
  Average throughput: 15.81 Mbit/s
  95th percentile per-packet one-way delay: 12.318 ms
  Loss rate: 2.12%
-- Flow 3:
  Average throughput: 8.94 Mbit/s
  95th percentile per-packet one-way delay: 11.968 ms
  Loss rate: 0.97%
Run 9: Report of PCC-Vivace — Data Link
Run 10: Statistics of PCC-Vivace

Start at: 2018-06-30 00:00:37  
End at: 2018-06-30 00:01:07  
Local clock offset: 1.383 ms  
Remote clock offset: -6.486 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 62.01 Mbit/s  
  95th percentile per-packet one-way delay: 12.226 ms  
  Loss rate: 5.24%  
-- Flow 1:
  Average throughput: 37.40 Mbit/s  
  95th percentile per-packet one-way delay: 12.227 ms  
  Loss rate: 6.00%  
-- Flow 2:
  Average throughput: 26.86 Mbit/s  
  95th percentile per-packet one-way delay: 11.898 ms  
  Loss rate: 4.50%  
-- Flow 3:
  Average throughput: 20.44 Mbit/s  
  95th percentile per-packet one-way delay: 12.606 ms  
  Loss rate: 2.95%
Run 10: Report of PCC-Vivace — Data Link

![Graph showing throughput and packet loss over time]

- **Throughput**: Various flows with different ingress and egress rates.
- **Packet Loss**: Graph showing packet loss over time with different flow rates.

Legend:
- Flow 1 ingress (mean 39.78 Mbit/s) and egress (mean 37.40 Mbit/s)
- Flow 2 ingress (mean 28.12 Mbit/s) and egress (mean 26.86 Mbit/s)
- Flow 3 ingress (mean 21.06 Mbit/s) and egress (mean 20.44 Mbit/s)

- Flow 1 (95th percentile 12.23 ms)
- Flow 2 (95th percentile 11.90 ms)
- Flow 3 (95th percentile 12.61 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-06-29 20:56:21
End at: 2018-06-29 20:56:51
Local clock offset: 0.536 ms
Remote clock offset: -2.583 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 13.717 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 13.834 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 13.720 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 12.864 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2018-06-29 21:15:57
End at: 2018-06-29 21:16:27
Local clock offset: 2.757 ms
Remote clock offset: -8.196 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 11.303 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 11.104 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 11.411 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 11.982 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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

- **Throughput (Mbps)**:
  - Blue dashed line: Flow 1 ingress (mean 2.01 Mbps)
  - Blue solid line: Flow 1 egress (mean 2.01 Mbps)
  - Green dashed line: Flow 2 ingress (mean 1.33 Mbps)
  - Green solid line: Flow 2 egress (mean 1.33 Mbps)
  - Red dashed line: Flow 3 ingress (mean 0.46 Mbps)
  - Red solid line: Flow 3 egress (mean 0.46 Mbps)

- **Per-packet one-way delay (ms)**:
  - Blue circles: Flow 1 (95th percentile 11.10 ms)
  - Green circles: Flow 2 (95th percentile 11.41 ms)
  - Red circles: Flow 3 (95th percentile 11.98 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-06-29 21:35:22
End at: 2018-06-29 21:35:52
Local clock offset: -1.203 ms
Remote clock offset: -6.901 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.79 Mbit/s
  95th percentile per-packet one-way delay: 13.248 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 2.01 Mbit/s
  95th percentile per-packet one-way delay: 13.321 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 13.299 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 0.47 Mbit/s
  95th percentile per-packet one-way delay: 12.736 ms
  Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

- Flow 1 ingress (mean 2.01 Mbps)
- Flow 1 egress (mean 2.01 Mbps)
- Flow 2 ingress (mean 1.31 Mbps)
- Flow 2 egress (mean 1.31 Mbps)
- Flow 3 ingress (mean 0.47 Mbps)
- Flow 3 egress (mean 0.47 Mbps)

Per-packet one-way delay (ms)

Time (s)

- Flow 1 (95th percentile 13.32 ms)
- Flow 2 (93rd percentile 13.30 ms)
- Flow 3 (95th percentile 12.74 ms)
Run 4: Statistics of WebRTC media

Local clock offset: 0.276 ms
Remote clock offset: -5.183 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.80 Mbit/s
  95th percentile per-packet one-way delay: 13.957 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.00 Mbit/s
  95th percentile per-packet one-way delay: 14.447 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.34 Mbit/s
  95th percentile per-packet one-way delay: 13.479 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.47 Mbit/s
  95th percentile per-packet one-way delay: 13.164 ms
  Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2018-06-29 22:14:43
End at: 2018-06-29 22:15:13
Local clock offset: 0.889 ms
Remote clock offset: 4.513 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 13.912 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 14.018 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 14.026 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 13.325 ms
Loss rate: 0.16%
Run 5: Report of WebRTC media — Data Link

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

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

- Flow 1 ingress (mean 2.36 Mbit/s)
- Flow 1 egress (mean 2.33 Mbit/s)
- Flow 2 ingress (mean 1.76 Mbit/s)
- Flow 2 egress (mean 1.74 Mbit/s)
- Flow 3 ingress (mean 0.55 Mbit/s)
- Flow 3 egress (mean 0.55 Mbit/s)

- Flow 1 (95th percentile 14.02 ms)
- Flow 2 (95th percentile 14.03 ms)
- Flow 3 (95th percentile 11.32 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-06-29 22:34:14
End at: 2018-06-29 22:34:44
Local clock offset: 2.592 ms
Remote clock offset: 7.047 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 11.595 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 11.578 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 11.510 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 11.849 ms
Loss rate: 2.35%
Run 6: Report of WebRTC media — Data Link
Run 7: Statistics of WebRTC media

End at: 2018-06-29 22:54:14
Local clock offset: 1.73 ms
Remote clock offset: 4.213 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 12.527 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 12.409 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 12.485 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 13.286 ms
Loss rate: 0.00%
Run 7: Report of WebRTC media — Data Link

![Graph showing throughput over time for different flows]

![Graph showing per-packet one-way delay over time for different flows]
Run 8: Statistics of WebRTC media

End at: 2018-06-29 23:13:54
Local clock offset: 1.617 ms
Remote clock offset: 3.118 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.96 Mbit/s
  95th percentile per-packet one-way delay: 12.797 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 2.10 Mbit/s
  95th percentile per-packet one-way delay: 12.591 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 1.33 Mbit/s
  95th percentile per-packet one-way delay: 12.719 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.54 Mbit/s
  95th percentile per-packet one-way delay: 13.363 ms
  Loss rate: 0.06%
Run 8: Report of WebRTC media — Data Link
Run 9: Statistics of WebRTC media

Start at: 2018-06-29 23:32:58
End at: 2018-06-29 23:33:28
Local clock offset: 2.573 ms
Remote clock offset: 1.363 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 12.408 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 12.547 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 12.251 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 12.530 ms
Loss rate: 0.05%
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

Start at: 2018-06-29 23:52:47
End at: 2018-06-29 23:53:17
Local clock offset: 3.819 ms
Remote clock offset: -4.835 ms

# Below is generated by plot.py at 2018-06-30 00:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 10.087 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 10.277 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 9.833 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 10.375 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link

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

Legend:
- Flow 1 ingress (mean 2.02 Mbit/s)
- Flow 1 egress (mean 2.02 Mbit/s)
- Flow 2 ingress (mean 1.32 Mbit/s)
- Flow 2 egress (mean 1.32 Mbit/s)
- Flow 3 ingress (mean 0.47 Mbit/s)
- Flow 3 egress (mean 0.47 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 10.28 ms)
- Flow 2 (95th percentile 9.83 ms)
- Flow 3 (95th percentile 10.38 ms)