Pantheon Report

Generated at 2018-07-25 11:29:01 (UTC).
Data path: India Ethernet (remote) → AWS India 1 Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b45a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0edbf90c077e64d
third_party/libutp @ b3465b942e2826f21b79eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55f8ec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd80f34e24f974ab
third_party/proto-quic @ 77961f1a8b733a86b42f1bc8143ebc978f3c9f42
third_party/scream-reproduce @ f099118d1421a3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35e6178b00e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2ba886211435ae071a32f96b7d80c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9d6e4735770d143a1fa2851
test from India to AWS India 1, 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>57.73</td>
<td>40.31</td>
<td>35.06</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>52.14</td>
<td>37.01</td>
<td>26.56</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>59.34</td>
<td>40.07</td>
<td>28.88</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>58.99</td>
<td>38.36</td>
<td>28.45</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>58.80</td>
<td>38.09</td>
<td>33.39</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>57.01</td>
<td>40.64</td>
<td>36.74</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>50.19</td>
<td>40.86</td>
<td>26.99</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>58.42</td>
<td>36.86</td>
<td>23.92</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>53.96</td>
<td>37.00</td>
<td>28.34</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>56.62</td>
<td>39.66</td>
<td>29.66</td>
</tr>
<tr>
<td>SCReAM</td>
<td>10</td>
<td>0.20</td>
<td>0.20</td>
<td>0.22</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>19.99</td>
<td>19.72</td>
<td>19.34</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>57.50</td>
<td>39.39</td>
<td>28.40</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>53.13</td>
<td>38.14</td>
<td>34.31</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>54.42</td>
<td>38.97</td>
<td>29.88</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>58.24</td>
<td>29.58</td>
<td>19.97</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>1.62</td>
<td>0.97</td>
<td>0.41</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-07-25 07:38:10
End at: 2018-07-25 07:38:40
Local clock offset: 1.153 ms
Remote clock offset: -1.731 ms

# Below is generated by plot.py at 2018-07-25 11:06:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.63 Mbit/s
95th percentile per-packet one-way delay: 44.530 ms
Loss rate: 3.85%
-- Flow 1:
Average throughput: 54.71 Mbit/s
95th percentile per-packet one-way delay: 42.121 ms
Loss rate: 3.68%
-- Flow 2:
Average throughput: 35.58 Mbit/s
95th percentile per-packet one-way delay: 59.731 ms
Loss rate: 4.18%
-- Flow 3:
Average throughput: 48.90 Mbit/s
95th percentile per-packet one-way delay: 38.631 ms
Loss rate: 3.97%
Run 1: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 56.74 Mbit/s)
- Flow 1 egress (mean 54.71 Mbit/s)
- Flow 2 ingress (mean 37.69 Mbit/s)
- Flow 2 egress (mean 35.58 Mbit/s)
- Flow 3 ingress (mean 50.77 Mbit/s)
- Flow 3 egress (mean 48.90 Mbit/s)
Run 2: Statistics of TCP BBR

Start at: 2018-07-25 08:00:08
End at: 2018-07-25 08:00:38
Local clock offset: -1.484 ms
Remote clock offset: -7.287 ms

# Below is generated by plot.py at 2018-07-25 11:06:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.07 Mbit/s
  95th percentile per-packet one-way delay: 38.523 ms
  Loss rate: 3.33%
-- Flow 1:
  Average throughput: 64.03 Mbit/s
  95th percentile per-packet one-way delay: 38.118 ms
  Loss rate: 3.26%
-- Flow 2:
  Average throughput: 36.98 Mbit/s
  95th percentile per-packet one-way delay: 41.798 ms
  Loss rate: 3.48%
-- Flow 3:
  Average throughput: 25.39 Mbit/s
  95th percentile per-packet one-way delay: 60.841 ms
  Loss rate: 3.45%
Run 2: Report of TCP BBR — Data Link

![Graph 1](attachment:image1.png)

- Flow 1 ingress (mean 66.14 Mbit/s)
- Flow 1 egress (mean 64.93 Mbit/s)
- Flow 2 ingress (mean 36.25 Mbit/s)
- Flow 2 egress (mean 36.95 Mbit/s)
- Flow 3 ingress (mean 26.22 Mbit/s)
- Flow 3 egress (mean 25.39 Mbit/s)

![Graph 2](attachment:image2.png)

- Flow 1 (95th percentile 38.12 ms)
- Flow 2 (95th percentile 41.80 ms)
- Flow 3 (95th percentile 60.84 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-07-25 08:20:53
End at: 2018-07-25 08:21:23
Local clock offset: -0.91 ms
Remote clock offset: -10.591 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 36.970 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 56.43 Mbit/s
95th percentile per-packet one-way delay: 36.483 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 36.96 Mbit/s
95th percentile per-packet one-way delay: 45.453 ms
Loss rate: 3.32%
-- Flow 3:
Average throughput: 48.43 Mbit/s
95th percentile per-packet one-way delay: 37.051 ms
Loss rate: 3.76%
Run 3: Report of TCP BBR — Data Link

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

![Graph 2: Per-packet one way delay vs Time](image)
Run 4: Statistics of TCP BBR

Start at: 2018-07-25 08:41:56
End at: 2018-07-25 08:42:26
Local clock offset: -1.342 ms
Remote clock offset: -5.346 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.10 Mbit/s
  95th percentile per-packet one-way delay: 37.733 ms
  Loss rate: 3.25%
-- Flow 1:
  Average throughput: 56.41 Mbit/s
  95th percentile per-packet one-way delay: 37.504 ms
  Loss rate: 3.11%
-- Flow 2:
  Average throughput: 36.99 Mbit/s
  95th percentile per-packet one-way delay: 37.992 ms
  Loss rate: 3.41%
-- Flow 3:
  Average throughput: 48.39 Mbit/s
  95th percentile per-packet one-way delay: 37.869 ms
  Loss rate: 3.50%
Run 5: Statistics of TCP BBR

Start at: 2018-07-25 09:02:48
End at: 2018-07-25 09:03:18
Local clock offset: -2.15 ms
Remote clock offset: -1.196 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.03 Mbit/s
  95th percentile per-packet one-way delay: 38.350 ms
  Loss rate: 3.30%
-- Flow 1:
  Average throughput: 59.24 Mbit/s
  95th percentile per-packet one-way delay: 35.406 ms
  Loss rate: 3.22%
-- Flow 2:
  Average throughput: 40.68 Mbit/s
  95th percentile per-packet one-way delay: 39.383 ms
  Loss rate: 3.42%
-- Flow 3:
  Average throughput: 32.29 Mbit/s
  95th percentile per-packet one-way delay: 46.812 ms
  Loss rate: 3.45%
Run 5: Report of TCP BBR — Data Link
Run 6: Statistics of TCP BBR

Start at: 2018-07-25 09:24:09
End at: 2018-07-25 09:24:39
Local clock offset: 1.289 ms
Remote clock offset: -0.256 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 40.910 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 56.42 Mbit/s
95th percentile per-packet one-way delay: 40.349 ms
Loss rate: 3.26%
-- Flow 2:
Average throughput: 48.41 Mbit/s
95th percentile per-packet one-way delay: 40.373 ms
Loss rate: 3.47%
-- Flow 3:
Average throughput: 25.52 Mbit/s
95th percentile per-packet one-way delay: 62.329 ms
Loss rate: 3.43%
Run 6: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet one-way delay](image-url)
Run 7: Statistics of TCP BBR

Start at: 2018-07-25 09:44:59
End at: 2018-07-25 09:45:29
Local clock offset: 1.256 ms
Remote clock offset: -4.111 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.10 Mbit/s
  95th percentile per-packet one-way delay: 41.880 ms
  Loss rate: 3.54%
-- Flow 1:
  Average throughput: 59.00 Mbit/s
  95th percentile per-packet one-way delay: 38.571 ms
  Loss rate: 3.46%
-- Flow 2:
  Average throughput: 40.81 Mbit/s
  95th percentile per-packet one-way delay: 44.952 ms
  Loss rate: 3.58%
-- Flow 3:
  Average throughput: 32.94 Mbit/s
  95th percentile per-packet one-way delay: 49.716 ms
  Loss rate: 3.84%
Run 7: Report of TCP BBR — Data Link

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

- **Flow 1 ingress** (mean 61.06 Mbit/s)
- **Flow 1 egress** (mean 59.00 Mbit/s)
- **Flow 2 ingress** (mean 42.27 Mbit/s)
- **Flow 2 egress** (mean 40.81 Mbit/s)
- **Flow 3 ingress** (mean 34.17 Mbit/s)
- **Flow 3 egress** (mean 32.94 Mbit/s)
Run 8: Statistics of TCP BBR

Start at: 2018-07-25 10:05:32
End at: 2018-07-25 10:06:02
Local clock offset: 3.16 ms
Remote clock offset: -6.775 ms

# Below is generated by plot.py at 2018-07-25 11:06:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.12 Mbit/s
  95th percentile per-packet one-way delay: 46.080 ms
  Loss rate: 3.33%
-- Flow 1:
  Average throughput: 58.99 Mbit/s
  95th percentile per-packet one-way delay: 40.771 ms
  Loss rate: 3.04%
-- Flow 2:
  Average throughput: 40.84 Mbit/s
  95th percentile per-packet one-way delay: 48.346 ms
  Loss rate: 3.78%
-- Flow 3:
  Average throughput: 32.98 Mbit/s
  95th percentile per-packet one-way delay: 51.857 ms
  Loss rate: 3.80%
Run 8: Report of TCP BBR — Data Link

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

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

- Flow 1 ingress (mean 60.78 Mbps)
- Flow 1 egress (mean 58.99 Mbps)
- Flow 2 ingress (mean 42.39 Mbps)
- Flow 2 egress (mean 40.84 Mbps)
- Flow 3 ingress (mean 34.39 Mbps)
- Flow 3 egress (mean 32.98 Mbps)
Run 9: Statistics of TCP BBR

End at: 2018-07-25 10:26:26
Local clock offset: 1.287 ms
Remote clock offset: -0.977 ms

# Below is generated by plot.py at 2018-07-25 11:07:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 39.302 ms
Loss rate: 3.40%
-- Flow 1:
Average throughput: 58.36 Mbit/s
95th percentile per-packet one-way delay: 36.160 ms
Loss rate: 3.41%
-- Flow 2:
Average throughput: 40.59 Mbit/s
95th percentile per-packet one-way delay: 39.133 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 31.74 Mbit/s
95th percentile per-packet one-way delay: 49.976 ms
Loss rate: 3.92%
Run 9: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 60.37 Mbps)**
- **Flow 1 egress (mean 58.36 Mbps)**
- **Flow 2 ingress (mean 41.86 Mbps)**
- **Flow 2 egress (mean 40.59 Mbps)**
- **Flow 3 ingress (mean 32.95 Mbps)**
- **Flow 3 egress (mean 31.74 Mbps)**

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

- **Flow 1 (95th percentile 36.16 ms)**
- **Flow 2 (95th percentile 39.13 ms)**
- **Flow 3 (95th percentile 49.98 ms)**
Run 10: Statistics of TCP BBR

End at: 2018-07-25 10:47:02
Local clock offset: 1.431 ms
Remote clock offset: -1.72 ms

# Below is generated by plot.py at 2018-07-25 11:07:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.88 Mbit/s
95th percentile per-packet one-way delay: 42.225 ms
Loss rate: 4.54%
-- Flow 1:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 39.471 ms
Loss rate: 4.16%
-- Flow 2:
Average throughput: 45.30 Mbit/s
95th percentile per-packet one-way delay: 42.127 ms
Loss rate: 4.98%
-- Flow 3:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 58.428 ms
Loss rate: 5.37%
Run 10: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2018-07-25 07:32:52
End at: 2018-07-25 07:33:22
Local clock offset: 1.617 ms
Remote clock offset: 0.426 ms

# Below is generated by plot.py at 2018-07-25 11:08:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 82.75 Mbit/s
  95th percentile per-packet one-way delay: 20.436 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 51.53 Mbit/s
  95th percentile per-packet one-way delay: 20.341 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 35.61 Mbit/s
  95th percentile per-packet one-way delay: 18.562 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 22.62 Mbit/s
  95th percentile per-packet one-way delay: 31.318 ms
  Loss rate: 0.38%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-07-25 07:54:51
Local clock offset: -2.505 ms
Remote clock offset: -6.947 ms

# Below is generated by plot.py at 2018-07-25 11:08:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.60 Mbit/s
95th percentile per-packet one-way delay: 21.122 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 21.226 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.85 Mbit/s
95th percentile per-packet one-way delay: 21.176 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 21.95 Mbit/s
95th percentile per-packet one-way delay: 19.965 ms
Loss rate: 0.27%
Run 2: Report of Copa — Data Link

![Graph showing throughput and packet error rate over time for different flows.](image-url)
Run 3: Statistics of Copa

Start at: 2018-07-25 08:15:51
End at: 2018-07-25 08:16:21
Local clock offset: 1.449 ms
Remote clock offset: -11.948 ms

# Below is generated by plot.py at 2018-07-25 11:08:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 84.15 Mbit/s
  95th percentile per-packet one-way delay: 24.217 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 52.21 Mbit/s
  95th percentile per-packet one-way delay: 24.670 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 35.51 Mbit/s
  95th percentile per-packet one-way delay: 22.859 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 24.22 Mbit/s
  95th percentile per-packet one-way delay: 25.235 ms
  Loss rate: 0.26%
Run 3: Report of Copa — Data Link

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

- **Flow 1 ingress** (mean 52.20 Mbps/s)
- **Flow 1 egress** (mean 52.21 Mbps/s)
- **Flow 2 ingress** (mean 35.30 Mbps/s)
- **Flow 2 egress** (mean 35.51 Mbps/s)
- **Flow 3 ingress** (mean 24.22 Mbps/s)
- **Flow 3 egress** (mean 24.22 Mbps/s)

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

- **Flow 1** (95th percentile 24.67 ms)
- **Flow 2** (95th percentile 22.86 ms)
- **Flow 3** (95th percentile 25.23 ms)
Run 4: Statistics of Copa

Start at: 2018-07-25 08:36:27
End at: 2018-07-25 08:36:57
Local clock offset: -0.093 ms
Remote clock offset: -5.55 ms

# Below is generated by plot.py at 2018-07-25 11:08:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.18 Mbit/s
  95th percentile per-packet one-way delay: 20.170 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 51.95 Mbit/s
  95th percentile per-packet one-way delay: 20.106 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 38.61 Mbit/s
  95th percentile per-packet one-way delay: 19.355 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 25.66 Mbit/s
  95th percentile per-packet one-way delay: 22.825 ms
  Loss rate: 0.44%
Run 4: Report of Copa — Data Link

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

- Flow 1 ingress (mean 51.92 Mbps)
- Flow 1 egress (mean 51.95 Mbps)
- Flow 2 ingress (mean 38.61 Mbps)
- Flow 2 egress (mean 38.61 Mbps)
- Flow 3 ingress (mean 25.71 Mbps)
- Flow 3 egress (mean 25.66 Mbps)

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

- Flow 1 (95th percentile 20.11 ms)
- Flow 2 (95th percentile 19.36 ms)
- Flow 3 (95th percentile 22.82 ms)
Run 5: Statistics of Copa

Start at: 2018-07-25 08:57:43
End at: 2018-07-25 08:58:13
Local clock offset: -2.682 ms
Remote clock offset: -1.522 ms

# Below is generated by plot.py at 2018-07-25 11:08:21
# Datalink statistics
# Total of 3 flows:
Average throughput: 86.98 Mbit/s
95th percentile per-packet one-way delay: 17.476 ms
Loss rate: 0.08%

-- Flow 1:
Average throughput: 53.37 Mbit/s
95th percentile per-packet one-way delay: 17.297 ms
Loss rate: 0.07%

-- Flow 2:
Average throughput: 35.64 Mbit/s
95th percentile per-packet one-way delay: 18.417 ms
Loss rate: 0.09%

-- Flow 3:
Average throughput: 29.81 Mbit/s
95th percentile per-packet one-way delay: 15.757 ms
Loss rate: 0.14%
Run 5: Report of Copa — Data Link

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

Throughput (Mbit/s) vs. Time (s):
- **Flow 1 Ingress**: mean 53.36 Mbit/s
- **Flow 1 Egress**: mean 53.37 Mbit/s
- **Flow 2 Ingress**: mean 35.61 Mbit/s
- **Flow 2 Egress**: mean 35.64 Mbit/s
- **Flow 3 Ingress**: mean 29.77 Mbit/s
- **Flow 3 Egress**: mean 29.81 Mbit/s

Delay (ms) vs. Time (s):
- **Flow 1 95th percentile**: 17.30 ms
- **Flow 2 95th percentile**: 18.42 ms
- **Flow 3 95th percentile**: 15.76 ms
Run 6: Statistics of Copa

Start at: 2018-07-25 09:18:40
End at: 2018-07-25 09:19:10
Local clock offset: -0.693 ms
Remote clock offset: -34.68 ms

# Below is generated by plot.py at 2018-07-25 11:08:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.45 Mbit/s
95th percentile per-packet one-way delay: 54.388 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 54.37 Mbit/s
95th percentile per-packet one-way delay: 54.599 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 53.316 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 55.264 ms
Loss rate: 0.28%
Run 6: Report of Copa — Data Link

---

**Graph 1:**
- X-axis: Time (s)
- Y-axis: Throughput (Mbit/s)
- Legend:
  - Blue dashed line: Flow 1 ingress (mean 54.35 Mbit/s)
  - Blue solid line: Flow 1 egress (mean 54.37 Mbit/s)
  - Green dashed line: Flow 2 ingress (mean 32.15 Mbit/s)
  - Green solid line: Flow 2 egress (mean 32.15 Mbit/s)
  - Red dashed line: Flow 3 ingress (mean 29.15 Mbit/s)
  - Red solid line: Flow 3 egress (mean 29.14 Mbit/s)

---

**Graph 2:**
- X-axis: Time (s)
- Y-axis: Per-packet delay (ms)
- Legend:
  - Blue: Flow 1 (95th percentile 54.60 ms)
  - Green: Flow 2 (95th percentile 53.32 ms)
  - Red: Flow 3 (95th percentile 55.26 ms)

---

35
Run 7: Statistics of Copa

Start at: 2018-07-25 09:39:51
End at: 2018-07-25 09:40:21
Local clock offset: -0.946 ms
Remote clock offset: 2.031 ms

# Below is generated by plot.py at 2018-07-25 11:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.83 Mbit/s
95th percentile per-packet one-way delay: 14.270 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 51.61 Mbit/s
95th percentile per-packet one-way delay: 14.502 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.13 Mbit/s
95th percentile per-packet one-way delay: 12.639 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 33.62 Mbit/s
95th percentile per-packet one-way delay: 15.445 ms
Loss rate: 0.22%
Run 7: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 51.59 Mbit/s)
- Flow 1 egress (mean 51.61 Mbit/s)
- Flow 2 ingress (mean 39.12 Mbit/s)
- Flow 2 egress (mean 39.13 Mbit/s)
- Flow 3 ingress (mean 33.60 Mbit/s)
- Flow 3 egress (mean 33.62 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 14.50 ms)
- Flow 2 (95th percentile 12.64 ms)
- Flow 3 (95th percentile 15.45 ms)
Run 8: Statistics of Copa

Start at: 2018-07-25 10:00:20
End at: 2018-07-25 10:00:50
Local clock offset: 1.04 ms
Remote clock offset: -4.696 ms

# Below is generated by plot.py at 2018-07-25 11:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.85 Mbit/s
95th percentile per-packet one-way delay: 18.388 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 48.35 Mbit/s
95th percentile per-packet one-way delay: 19.406 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 43.26 Mbit/s
95th percentile per-packet one-way delay: 16.895 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 26.17 Mbit/s
95th percentile per-packet one-way delay: 18.533 ms
Loss rate: 0.20%
Run 8: Report of Copa — Data Link

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

- Flow 1 ingress (mean 48.34 Mbit/s)
- Flow 1 egress (mean 48.35 Mbit/s)
- Flow 2 ingress (mean 43.27 Mbit/s)
- Flow 2 egress (mean 43.26 Mbit/s)
- Flow 3 ingress (mean 26.16 Mbit/s)
- Flow 3 egress (mean 26.17 Mbit/s)

![Graph showing packet loss distribution per flow.]

- Flow 1 (95th percentile 19.41 ms)
- Flow 2 (95th percentile 16.89 ms)
- Flow 3 (95th percentile 18.53 ms)
Run 9: Statistics of Copa

Start at: 2018-07-25 10:20:52
Local clock offset: -1.571 ms
Remote clock offset: -2.825 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.06 Mbit/s
  95th percentile per-packet one-way delay: 16.040 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 53.10 Mbit/s
  95th percentile per-packet one-way delay: 15.661 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 35.12 Mbit/s
  95th percentile per-packet one-way delay: 17.385 ms
  Loss rate: 0.16%
-- Flow 3:
  Average throughput: 28.82 Mbit/s
  95th percentile per-packet one-way delay: 15.486 ms
  Loss rate: 0.22%
Run 9: Report of Copa — Data Link

![Graph showing throughput over time for different flows.]
Run 10: Statistics of Copa

Start at: 2018-07-25 10:41:36
End at: 2018-07-25 10:42:06
Local clock offset: 1.655 ms
Remote clock offset: -1.489 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.33 Mbit/s
95th percentile per-packet one-way delay: 23.849 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 52.75 Mbit/s
95th percentile per-packet one-way delay: 22.874 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 34.17 Mbit/s
95th percentile per-packet one-way delay: 24.355 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 23.55 Mbit/s
95th percentile per-packet one-way delay: 27.091 ms
Loss rate: 0.14%
Run 10: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

End at: 2018-07-25 07:39:57
Local clock offset: -1.066 ms
Remote clock offset: -2.323 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.39 Mbit/s
  95th percentile per-packet one-way delay: 23.816 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 55.41 Mbit/s
  95th percentile per-packet one-way delay: 24.139 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 47.85 Mbit/s
  95th percentile per-packet one-way delay: 23.374 ms
  Loss rate: 0.18%
-- Flow 3:
  Average throughput: 24.42 Mbit/s
  95th percentile per-packet one-way delay: 24.289 ms
  Loss rate: 0.36%
Run 1: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress** (mean 55.39 Mbit/s)
- **Flow 1 egress** (mean 55.41 Mbit/s)
- **Flow 2 ingress** (mean 47.87 Mbit/s)
- **Flow 2 egress** (mean 47.85 Mbit/s)
- **Flow 3 ingress** (mean 24.44 Mbit/s)
- **Flow 3 egress** (mean 24.42 Mbit/s)
Run 2: Statistics of TCP Cubic

Start at: 2018-07-25 08:01:28
End at: 2018-07-25 08:01:58
Local clock offset: -1.155 ms
Remote clock offset: -7.267 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 23.293 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 59.41 Mbit/s
95th percentile per-packet one-way delay: 23.047 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 23.490 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 23.841 ms
Loss rate: 0.38%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Start at: 2018-07-25 08:22:08
End at: 2018-07-25 08:22:38
Local clock offset: 2.02 ms
Remote clock offset: -11.015 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.60 Mbit/s
  95th percentile per-packet one-way delay: 24.805 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 62.95 Mbit/s
  95th percentile per-packet one-way delay: 24.292 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 36.89 Mbit/s
  95th percentile per-packet one-way delay: 25.548 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 24.38 Mbit/s
  95th percentile per-packet one-way delay: 25.547 ms
  Loss rate: 0.38%
Run 3: Report of TCP Cubic — Data Link

---

**Throughput (Mbps):**
- **Flow 1 ingress** (mean 62.96 Mbps)
- **Flow 1 egress** (mean 62.95 Mbps)
- **Flow 2 ingress** (mean 36.88 Mbps)
- **Flow 2 egress** (mean 36.89 Mbps)
- **Flow 3 ingress** (mean 24.41 Mbps)
- **Flow 3 egress** (mean 24.38 Mbps)

**Per packet one way delay (ms):**
- **Flow 1** (95th percentile 24.29 ms)
- **Flow 2** (95th percentile 25.55 ms)
- **Flow 3** (95th percentile 25.55 ms)
Run 4: Statistics of TCP Cubic

Start at: 2018-07-25 08:43:14
End at: 2018-07-25 08:43:44
Local clock offset: -1.984 ms
Remote clock offset: -3.269 ms

# Below is generated by plot.py at 2018-07-25 11:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 19.642 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 19.545 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 48.06 Mbit/s
95th percentile per-packet one-way delay: 19.546 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 20.434 ms
Loss rate: 0.35%
Run 4: Report of TCP Cubic — Data Link

[Graphs showing network performance metrics like throughput and per-packet one-way delay over time for different flows.]
Run 5: Statistics of TCP Cubic

Start at: 2018-07-25 09:04:03
End at: 2018-07-25 09:04:33
Local clock offset: 0.129 ms
Remote clock offset: -0.574 ms

# Below is generated by plot.py at 2018-07-25 11:10:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.67 Mbit/s
95th percentile per-packet one-way delay: 21.927 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 21.559 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 36.59 Mbit/s
95th percentile per-packet one-way delay: 22.460 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 25.05 Mbit/s
95th percentile per-packet one-way delay: 23.350 ms
Loss rate: 0.38%
Run 5: Report of TCP Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 63.99 Mbps)
  - Flow 1 egress (mean 63.99 Mbps)
  - Flow 2 ingress (mean 36.59 Mbps)
  - Flow 2 egress (mean 36.59 Mbps)
  - Flow 3 ingress (mean 25.09 Mbps)
  - Flow 3 egress (mean 25.09 Mbps)

- **Packet loss (ms):**
  - Flow 1 (95th percentile 21.56 ms)
  - Flow 2 (95th percentile 22.46 ms)
  - Flow 3 (95th percentile 23.35 ms)
Run 6: Statistics of TCP Cubic

Start at: 2018-07-25 09:25:25
End at: 2018-07-25 09:25:55
Local clock offset: -1.327 ms
Remote clock offset: 3.288 ms

# Below is generated by plot.py at 2018-07-25 11:10:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.50 Mbit/s
95th percentile per-packet one-way delay: 19.059 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.31 Mbit/s
95th percentile per-packet one-way delay: 18.774 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 37.18 Mbit/s
95th percentile per-packet one-way delay: 19.325 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 46.53 Mbit/s
95th percentile per-packet one-way delay: 19.434 ms
Loss rate: 0.33%
Run 6: Report of TCP Cubic — Data Link
Run 7: Statistics of TCP Cubic

Start at: 2018-07-25 09:46:12
End at: 2018-07-25 09:46:42
Local clock offset: -1.243 ms
Remote clock offset: -2.2 ms

# Below is generated by plot.py at 2018-07-25 11:10:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.72 Mbit/s
  95th percentile per-packet one-way delay: 18.778 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 64.12 Mbit/s
  95th percentile per-packet one-way delay: 18.348 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 36.57 Mbit/s
  95th percentile per-packet one-way delay: 19.216 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 24.87 Mbit/s
  95th percentile per-packet one-way delay: 20.056 ms
  Loss rate: 0.30%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-07-25 10:06:50
End at: 2018-07-25 10:07:20
Local clock offset: 2.236 ms
Remote clock offset: -4.762 ms

# Below is generated by plot.py at 2018-07-25 11:10:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 22.171 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 58.89 Mbit/s
95th percentile per-packet one-way delay: 21.918 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 22.776 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 31.96 Mbit/s
95th percentile per-packet one-way delay: 22.422 ms
Loss rate: 0.32%
Run 8: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 58.89 Mbit/s)
- Flow 1 egress (mean 58.89 Mbit/s)
- Flow 2 ingress (mean 40.61 Mbit/s)
- Flow 2 egress (mean 40.60 Mbit/s)
- Flow 3 ingress (mean 31.97 Mbit/s)
- Flow 3 egress (mean 31.96 Mbit/s)

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

- Flow 1 (95th percentile 21.92 ms)
- Flow 2 (95th percentile 22.78 ms)
- Flow 3 (95th percentile 22.42 ms)
Run 9: Statistics of TCP Cubic

Local clock offset: 3.064 ms
Remote clock offset: -3.545 ms

# Below is generated by plot.py at 2018-07-25 11:10:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.52 Mbit/s
  95th percentile per-packet one-way delay: 26.742 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 58.54 Mbit/s
  95th percentile per-packet one-way delay: 26.427 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 40.49 Mbit/s
  95th percentile per-packet one-way delay: 26.220 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 30.23 Mbit/s
  95th percentile per-packet one-way delay: 33.216 ms
  Loss rate: 0.29%
Run 9: Report of TCP Cubic — Data Link
Run 10: Statistics of TCP Cubic

Local clock offset: -0.233 ms
Remote clock offset: -1.557 ms

# Below is generated by plot.py at 2018-07-25 11:10:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 89.59 Mbit/s
  95th percentile per-packet one-way delay: 26.204 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 57.14 Mbit/s
  95th percentile per-packet one-way delay: 28.982 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 36.28 Mbit/s
  95th percentile per-packet one-way delay: 21.801 ms
  Loss rate: 0.34%
-- Flow 3:
  Average throughput: 25.02 Mbit/s
  95th percentile per-packet one-way delay: 23.464 ms
  Loss rate: 0.31%
Run 10: Report of TCP Cubic — Data Link

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

- **Throughput**: Flow 1 ingress (mean 57.19 Mbit/s), Flow 1 egress (mean 57.14 Mbit/s), Flow 2 ingress (mean 36.36 Mbit/s), Flow 2 egress (mean 36.28 Mbit/s), Flow 3 ingress (mean 25.03 Mbit/s), Flow 3 egress (mean 25.02 Mbit/s)

- **Round-Trip Time**: Flow 1 (95th percentile 28.98 ms), Flow 2 (95th percentile 21.80 ms), Flow 3 (95th percentile 23.46 ms)
Run 1: Statistics of FillP

Start at: 2018-07-25 07:53:40
End at: 2018-07-25 07:54:10
Local clock offset: 0.682 ms
Remote clock offset: -5.619 ms

# Below is generated by plot.py at 2018-07-25 11:11:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.87 Mbit/s
95th percentile per-packet one-way delay: 47.141 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 58.49 Mbit/s
95th percentile per-packet one-way delay: 46.446 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 47.123 ms
Loss rate: 3.76%
-- Flow 3:
Average throughput: 29.45 Mbit/s
95th percentile per-packet one-way delay: 48.014 ms
Loss rate: 3.89%
Run 1: Report of FillP — Data Link

![Graph 1](image1)

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

Start at: 2018-07-25 08:14:39
End at: 2018-07-25 08:15:09
Local clock offset: 0.807 ms
Remote clock offset: -11.562 ms

# Below is generated by plot.py at 2018-07-25 11:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 46.035 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 45.440 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 39.58 Mbit/s
95th percentile per-packet one-way delay: 46.075 ms
Loss rate: 3.37%
-- Flow 3:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 46.811 ms
Loss rate: 3.86%
Run 2: Report of FillP — Data Link

[Graph showing throughput and packet delay over time for different flows with specific means and percentile values provided in legend.]
Run 3: Statistics of FillP

Start at: 2018-07-25 08:35:13
End at: 2018-07-25 08:35:43
Local clock offset: 1.015 ms
Remote clock offset: -6.431 ms

# Below is generated by plot.py at 2018-07-25 11:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 44.831 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 58.32 Mbit/s
95th percentile per-packet one-way delay: 44.159 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 39.39 Mbit/s
95th percentile per-packet one-way delay: 44.720 ms
Loss rate: 3.95%
-- Flow 3:
Average throughput: 30.78 Mbit/s
95th percentile per-packet one-way delay: 45.777 ms
Loss rate: 4.25%
Run 3: Report of FillP — Data Link

---

**Throughput (Mbps)**

Time (s)

Flow 1 ingress (mean 59.21 Mbps) — Flow 1 egress (mean 58.32 Mbps)
Flow 2 ingress (mean 40.93 Mbps) — Flow 2 egress (mean 39.39 Mbps)
Flow 3 ingress (mean 32.01 Mbps) — Flow 3 egress (mean 30.78 Mbps)

---

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

Time (s)

Flow 1 (95th percentile 44.16 ms) — Flow 2 (95th percentile 44.72 ms) — Flow 3 (95th percentile 45.78 ms)

---

69
Run 4: Statistics of FillP

Start at: 2018-07-25 08:56:31
End at: 2018-07-25 08:57:01
Local clock offset: -2.527 ms
Remote clock offset: -3.67 ms

# Below is generated by plot.py at 2018-07-25 11:11:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 41.869 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 58.93 Mbit/s
95th percentile per-packet one-way delay: 41.127 ms
Loss rate: 1.73%
-- Flow 2:
Average throughput: 39.80 Mbit/s
95th percentile per-packet one-way delay: 41.548 ms
Loss rate: 4.02%
-- Flow 3:
Average throughput: 29.49 Mbit/s
95th percentile per-packet one-way delay: 42.989 ms
Loss rate: 3.98%
Run 4: Report of FillP — Data Link

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

Start at: 2018-07-25 09:17:19
End at: 2018-07-25 09:17:49
Local clock offset: 1.976 ms
Remote clock offset: 1.271 ms

# Below is generated by plot.py at 2018-07-25 11:11:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.98 Mbit/s
95th percentile per-packet one-way delay: 44.478 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 43.593 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 38.34 Mbit/s
95th percentile per-packet one-way delay: 44.670 ms
Loss rate: 3.17%
-- Flow 3:
Average throughput: 30.99 Mbit/s
95th percentile per-packet one-way delay: 45.269 ms
Loss rate: 4.00%
Run 5: Report of FillP — Data Link

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

- Flow 1 ingress (mean 60.07 Mbit/s)
- Flow 1 egress (mean 59.22 Mbit/s)
- Flow 2 ingress (mean 39.55 Mbit/s)
- Flow 2 egress (mean 38.34 Mbit/s)
- Flow 3 ingress (mean 32.20 Mbit/s)
- Flow 3 egress (mean 30.99 Mbit/s)

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

- Flow 1 (95th percentile 43.59 ms)
- Flow 2 (95th percentile 44.67 ms)
- Flow 3 (95th percentile 45.27 ms)
Run 6: Statistics of FillP

Start at: 2018-07-25 09:38:39
End at: 2018-07-25 09:39:09
Local clock offset: 0.27 ms
Remote clock offset: 2.743 ms

# Below is generated by plot.py at 2018-07-25 11:11:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.08 Mbit/s
  95th percentile per-packet one-way delay: 45.938 ms
  Loss rate: 2.32%
-- Flow 1:
  Average throughput: 63.52 Mbit/s
  95th percentile per-packet one-way delay: 29.726 ms
  Loss rate: 1.50%
-- Flow 2:
  Average throughput: 36.29 Mbit/s
  95th percentile per-packet one-way delay: 45.892 ms
  Loss rate: 3.97%
-- Flow 3:
  Average throughput: 22.36 Mbit/s
  95th percentile per-packet one-way delay: 49.444 ms
  Loss rate: 3.84%
Run 6: Report of FillP — Data Link

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

Legend:
- Flow 1 ingress (mean 64.41 Mbit/s)
- Flow 1 egress (mean 63.52 Mbit/s)
- Flow 2 ingress (mean 37.75 Mbit/s)
- Flow 2 egress (mean 36.29 Mbit/s)
- Flow 3 ingress (mean 23.15 Mbit/s)
- Flow 3 egress (mean 22.36 Mbit/s)
Run 7: Statistics of FillP

Start at: 2018-07-25 09:59:08
End at: 2018-07-25 09:59:38
Local clock offset: 1.726 ms
Remote clock offset: -4.512 ms

# Below is generated by plot.py at 2018-07-25 11:11:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.78 Mbit/s
  95th percentile per-packet one-way delay: 42.351 ms
  Loss rate: 2.52%
-- Flow 1:
  Average throughput: 58.46 Mbit/s
  95th percentile per-packet one-way delay: 41.603 ms
  Loss rate: 1.77%
-- Flow 2:
  Average throughput: 39.98 Mbit/s
  95th percentile per-packet one-way delay: 42.516 ms
  Loss rate: 3.39%
-- Flow 3:
  Average throughput: 29.40 Mbit/s
  95th percentile per-packet one-way delay: 43.238 ms
  Loss rate: 4.58%
Run 7: Report of FillP — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 59.46 Mbps)
- Flow 1 egress (mean 58.46 Mbps)
- Flow 2 ingress (mean 41.31 Mbps)
- Flow 2 egress (mean 39.98 Mbps)
- Flow 3 ingress (mean 30.69 Mbps)
- Flow 3 egress (mean 29.40 Mbps)

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

- Flow 1 (95th percentile 41.60 ms)
- Flow 2 (95th percentile 42.52 ms)
- Flow 3 (95th percentile 43.24 ms)
Run 8: Statistics of FillP

Start at: 2018-07-25 10:19:43
Local clock offset: 1.648 ms
Remote clock offset: -2.486 ms

# Below is generated by plot.py at 2018-07-25 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 50.512 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 63.85 Mbit/s
95th percentile per-packet one-way delay: 33.873 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 52.141 ms
Loss rate: 3.28%
-- Flow 3:
Average throughput: 23.39 Mbit/s
95th percentile per-packet one-way delay: 53.440 ms
Loss rate: 2.87%
Run 8: Report of FillP — Data Link

![Graph showing throughput and delay over time for different flows](image-url)
Run 9: Statistics of FillP

End at: 2018-07-25 10:40:53
Local clock offset: -1.591 ms
Remote clock offset: -2.373 ms

# Below is generated by plot.py at 2018-07-25 11:12:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.18 Mbit/s
  95th percentile per-packet one-way delay: 41.793 ms
  Loss rate: 3.12%
-- Flow 1:
  Average throughput: 55.89 Mbit/s
  95th percentile per-packet one-way delay: 41.587 ms
  Loss rate: 2.91%
-- Flow 2:
  Average throughput: 38.43 Mbit/s
  95th percentile per-packet one-way delay: 41.530 ms
  Loss rate: 3.14%
-- Flow 3:
  Average throughput: 29.38 Mbit/s
  95th percentile per-packet one-way delay: 42.242 ms
  Loss rate: 4.28%
Run 9: Report of FillP — Data Link
Run 10: Statistics of FillP

Start at: 2018-07-25 11:00:43
End at: 2018-07-25 11:01:13
Local clock offset: 1.821 ms
Remote clock offset: -1.832 ms

# Below is generated by plot.py at 2018-07-25 11:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.35 Mbit/s
95th percentile per-packet one-way delay: 44.695 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 54.81 Mbit/s
95th percentile per-packet one-way delay: 42.532 ms
Loss rate: 2.32%
-- Flow 2:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 46.198 ms
Loss rate: 6.33%
-- Flow 3:
Average throughput: 28.21 Mbit/s
95th percentile per-packet one-way delay: 47.503 ms
Loss rate: 5.04%
Run 10: Report of FillIP — Data Link
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-25 07:43:45
End at: 2018-07-25 07:44:15
Local clock offset: 1.25 ms
Remote clock offset: -4.137 ms

# Below is generated by plot.py at 2018-07-25 11:13:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 44.968 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 41.000 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 39.58 Mbit/s
95th percentile per-packet one-way delay: 47.495 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 45.450 ms
Loss rate: 3.17%
Run 1: Report of FillP-Sheep — Data Link

![Data Link Throughput Graph]

![Data Link Per-packet one way delay Graph]
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-25 08:05:10
End at: 2018-07-25 08:05:40
Local clock offset: 0.614 ms
Remote clock offset: -7.96 ms

# Below is generated by plot.py at 2018-07-25 11:13:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.40 Mbit/s
95th percentile per-packet one-way delay: 39.999 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 38.357 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 40.39 Mbit/s
95th percentile per-packet one-way delay: 41.994 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 32.43 Mbit/s
95th percentile per-packet one-way delay: 40.480 ms
Loss rate: 0.69%
Run 2: Report of FillP-Sheep — Data Link

[Diagram 1: Throughput vs. Time]

Throughput (MBit/s)

Time (s)

Flow 1 ingress (mean 59.62 MBit/s)
Flow 1 egress (mean 58.75 MBit/s)
Flow 2 ingress (mean 41.12 MBit/s)
Flow 2 egress (mean 40.39 MBit/s)
Flow 3 ingress (mean 32.57 MBit/s)
Flow 3 egress (mean 32.43 MBit/s)

[Diagram 2: Per-packet one-way delay vs. Time]

Per-packet one-way delay (μs)

Time (s)

Flow 1 (95th percentile 38.36 μs)
Flow 2 (95th percentile 41.99 μs)
Flow 3 (95th percentile 40.48 μs)
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-25 08:25:50
End at: 2018-07-25 08:26:20
Local clock offset: 1.64 ms
Remote clock offset: -10.99 ms

# Below is generated by plot.py at 2018-07-25 11:13:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 42.595 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 43.219 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 45.783 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 36.288 ms
Loss rate: 1.51%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-25 08:47:02
End at: 2018-07-25 08:47:32
Local clock offset: -0.322 ms
Remote clock offset: -2.218 ms

# Below is generated by plot.py at 2018-07-25 11:13:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.79 Mbit/s
  95th percentile per-packet one-way delay: 37.421 ms
  Loss rate: 1.26%
-- Flow 1:
  Average throughput: 57.18 Mbit/s
  95th percentile per-packet one-way delay: 36.621 ms
  Loss rate: 1.33%
-- Flow 2:
  Average throughput: 40.44 Mbit/s
  95th percentile per-packet one-way delay: 38.192 ms
  Loss rate: 1.23%
-- Flow 3:
  Average throughput: 32.32 Mbit/s
  95th percentile per-packet one-way delay: 39.366 ms
  Loss rate: 0.96%
Run 4: Report of FillP-Sheep — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 57.91 Mbit/s)
Flow 2 ingress (mean 40.90 Mbit/s)
Flow 3 ingress (mean 32.54 Mbit/s)
Flow 1 egress (mean 57.18 Mbit/s)
Flow 2 egress (mean 40.44 Mbit/s)
Flow 3 egress (mean 32.32 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 36.62 ms)
Flow 2 (95th percentile 38.19 ms)
Flow 3 (95th percentile 39.37 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-25 09:07:49
End at: 2018-07-25 09:08:19
Local clock offset: 0.416 ms
Remote clock offset: 0.419 ms

# Below is generated by plot.py at 2018-07-25 11:13:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.34 Mbit/s
95th percentile per-packet one-way delay: 34.035 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 63.97 Mbit/s
95th percentile per-packet one-way delay: 33.287 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 36.53 Mbit/s
95th percentile per-packet one-way delay: 37.370 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 46.760 ms
Loss rate: 1.26%
Run 5: Report of FillP-Sheep — Data Link

![Graph of throughput and per-packet one-way delay](image-url)
Run 6: Statistics of FILLP-Sheep

Start at: 2018-07-25 09:29:04
End at: 2018-07-25 09:29:34
Local clock offset: -1.667 ms
Remote clock offset: 4.517 ms

# Below is generated by plot.py at 2018-07-25 11:13:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 32.856 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 56.23 Mbit/s
95th percentile per-packet one-way delay: 31.828 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 36.82 Mbit/s
95th percentile per-packet one-way delay: 36.385 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: 29.166 ms
Loss rate: 1.69%
Run 6: Report of FillP-Sheep — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 56.85 Mbit/s)
  - Flow 1 egress (mean 56.23 Mbit/s)
  - Flow 2 ingress (mean 37.32 Mbit/s)
  - Flow 2 egress (mean 36.82 Mbit/s)
  - Flow 3 ingress (mean 47.53 Mbit/s)
  - Flow 3 egress (mean 47.20 Mbit/s)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 31.83 ms)
  - Flow 2 (95th percentile 36.38 ms)
  - Flow 3 (95th percentile 29.17 ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-25 09:49:51
End at: 2018-07-25 09:50:21
Local clock offset: 0.957 ms
Remote clock offset: -4.911 ms

# Below is generated by plot.py at 2018-07-25 11:14:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.28 Mbit/s
95th percentile per-packet one-way delay: 37.428 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 56.18 Mbit/s
95th percentile per-packet one-way delay: 36.284 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 43.665 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 47.67 Mbit/s
95th percentile per-packet one-way delay: 33.796 ms
Loss rate: 0.70%
Run 7: Report of FillP-Sheep — Data Link
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-25 10:10:29
End at: 2018-07-25 10:10:59
Local clock offset: 3.652 ms
Remote clock offset: -5.523 ms

# Below is generated by plot.py at 2018-07-25 11:14:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.40 Mbit/s
95th percentile per-packet one-way delay: 37.975 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 63.87 Mbit/s
95th percentile per-packet one-way delay: 36.724 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 36.66 Mbit/s
95th percentile per-packet one-way delay: 42.668 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 48.074 ms
Loss rate: 1.07%
Run 8: Report of FillP-Sheep — Data Link

![Graph of Throughput vs Time]

![Graph of Packet One Way Delay vs Time]

Flow 1 ingress (mean 64.69 Mbit/s)  
Flow 1 egress (mean 63.87 Mbit/s)  
Flow 2 ingress (mean 37.14 Mbit/s)  
Flow 2 egress (mean 36.66 Mbit/s)  
Flow 3 ingress (mean 24.84 Mbit/s)  
Flow 3 egress (mean 24.62 Mbit/s)

Flow 1 (95th percentile 36.72 ms)  
Flow 2 (95th percentile 42.67 ms)  
Flow 3 (95th percentile 48.07 ms)
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-25 10:30:59
End at: 2018-07-25 10:31:29
Local clock offset: 0.226 ms
Remote clock offset: -1.594 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 33.929 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 63.98 Mbit/s
95th percentile per-packet one-way delay: 31.932 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 36.86 Mbit/s
95th percentile per-packet one-way delay: 39.448 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 23.59 Mbit/s
95th percentile per-packet one-way delay: 47.458 ms
Loss rate: 0.98%
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-25 10:51:30
End at: 2018-07-25 10:52:00
Local clock offset: 1.279 ms
Remote clock offset: -2.862 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.05 Mbit/s
95th percentile per-packet one-way delay: 40.924 ms
Loss rate: 2.88%
-- Flow 1:
Average throughput: 53.64 Mbit/s
95th percentile per-packet one-way delay: 37.729 ms
Loss rate: 2.51%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 43.859 ms
Loss rate: 3.73%
-- Flow 3:
Average throughput: 22.25 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 2.39%
Run 10: Report of FillIP-Sheep — Data Link

---

[Graphs showing network throughput and packet delay over time for different flows.]
Run 1: Statistics of Indigo

Start at: 2018-07-25 07:40:41
End at: 2018-07-25 07:41:11
Local clock offset: -0.676 ms
Remote clock offset: -1.765 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 22.286 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 58.53 Mbit/s
95th percentile per-packet one-way delay: 20.564 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.11 Mbit/s
95th percentile per-packet one-way delay: 23.794 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 23.546 ms
Loss rate: 0.32%
Run 1: Report of Indigo — Data Link

![Throughput Graph](Image)

![Packet Delay Graph](Image)

- Flow 1 ingress (mean 58.52 Mbit/s)
- Flow 1 egress (mean 58.53 Mbit/s)
- Flow 2 ingress (mean 40.11 Mbit/s)
- Flow 2 egress (mean 40.11 Mbit/s)
- Flow 3 ingress (mean 31.88 Mbit/s)
- Flow 3 egress (mean 31.87 Mbit/s)

Flow 1 (95th percentile 20.56 ms)
Flow 2 (95th percentile 23.79 ms)
Flow 3 (95th percentile 23.55 ms)
Run 2: Statistics of Indigo

Start at: 2018-07-25 08:02:40
End at: 2018-07-25 08:03:10
Local clock offset: -2.762 ms
Remote clock offset: -7.361 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.68 Mbit/s
95th percentile per-packet one-way delay: 20.083 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.56 Mbit/s
95th percentile per-packet one-way delay: 20.042 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 20.167 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 18.801 ms
Loss rate: 0.31%
Run 3: Statistics of Indigo

End at: 2018-07-25 08:23:50
Local clock offset: -0.002 ms
Remote clock offset: -10.704 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.40 Mbit/s
  95th percentile per-packet one-way delay: 22.007 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 59.00 Mbit/s
  95th percentile per-packet one-way delay: 20.077 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 40.42 Mbit/s
  95th percentile per-packet one-way delay: 21.028 ms
  Loss rate: 0.12%
-- Flow 3:
  Average throughput: 32.10 Mbit/s
  95th percentile per-packet one-way delay: 24.994 ms
  Loss rate: 0.36%
Run 3: Report of Indigo — Data Link

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

- **Flow 1**
  - Ingress (mean 58.99 Mbit/s)
  - Egress (mean 59.00 Mbit/s)
- **Flow 2**
  - Ingress (mean 40.41 Mbit/s)
  - Egress (mean 40.42 Mbit/s)
- **Flow 3**
  - Ingress (mean 32.13 Mbit/s)
  - Egress (mean 32.10 Mbit/s)
Run 4: Statistics of Indigo

Start at: 2018-07-25 08:44:29
End at: 2018-07-25 08:44:59
Local clock offset: 0.458 ms
Remote clock offset: -3.393 ms

# Below is generated by plot.py at 2018-07-25 11:14:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.64 Mbit/s
  95th percentile per-packet one-way delay: 22.113 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 59.21 Mbit/s
  95th percentile per-packet one-way delay: 22.009 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 40.38 Mbit/s
  95th percentile per-packet one-way delay: 21.165 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 32.21 Mbit/s
  95th percentile per-packet one-way delay: 22.882 ms
  Loss rate: 0.33%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2018-07-25 09:05:20
End at: 2018-07-25 09:05:50
Local clock offset: 0.635 ms
Remote clock offset: -0.252 ms

# Below is generated by plot.py at 2018-07-25 11:15:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 23.025 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 23.132 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 22.184 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 48.16 Mbit/s
95th percentile per-packet one-way delay: 19.789 ms
Loss rate: 0.33%
Run 5: Report of Indigo — Data Link
Run 6: Statistics of Indigo

Start at: 2018-07-25 09:26:37
End at: 2018-07-25 09:27:07
Local clock offset: -1.269 ms
Remote clock offset: -29.121 ms

# Below is generated by plot.py at 2018-07-25 11:15:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.01 Mbit/s
  95th percentile per-packet one-way delay: 52.133 ms
  Loss rate: 0.14%
-- Flow 1:
  Average throughput: 56.89 Mbit/s
  95th percentile per-packet one-way delay: 52.223 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 36.55 Mbit/s
  95th percentile per-packet one-way delay: 51.469 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 48.16 Mbit/s
  95th percentile per-packet one-way delay: 50.021 ms
  Loss rate: 0.30%
Run 6: Report of Indigo — Data Link
Run 7: Statistics of Indigo

Start at: 2018-07-25 09:47:24
End at: 2018-07-25 09:47:54
Local clock offset: 3.416 ms
Remote clock offset: -2.217 ms

# Below is generated by plot.py at 2018-07-25 11:15:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 23.405 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 56.37 Mbit/s
95th percentile per-packet one-way delay: 21.121 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.62 Mbit/s
95th percentile per-packet one-way delay: 23.670 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 48.12 Mbit/s
95th percentile per-packet one-way delay: 21.267 ms
Loss rate: 0.29%
Run 7: Report of Indigo — Data Link

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

Graph 1: Throughput (Mbps) over time for different flows:
- Flow 1 ingress (mean 56.36 Mbps)
- Flow 1 egress (mean 56.37 Mbps)
- Flow 2 ingress (mean 36.66 Mbps)
- Flow 2 egress (mean 36.62 Mbps)
- Flow 3 ingress (mean 48.14 Mbps)
- Flow 3 egress (mean 48.12 Mbps)

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

Graph 2: Per packet one-way delay (ms) for different flows:
- Flow 1 (95th percentile 21.12 ms)
- Flow 2 (95th percentile 23.67 ms)
- Flow 3 (95th percentile 21.27 ms)
Run 8: Statistics of Indigo

Start at: 2018-07-25 10:08:05
End at: 2018-07-25 10:08:35
Local clock offset: 3.208 ms
Remote clock offset: -4.87 ms

# Below is generated by plot.py at 2018-07-25 11:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 23.917 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 24.104 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 48.45 Mbit/s
95th percentile per-packet one-way delay: 21.738 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 24.17 Mbit/s
95th percentile per-packet one-way delay: 23.515 ms
Loss rate: 0.39%
Run 8: Report of Indigo — Data Link
Run 9: Statistics of Indigo

End at: 2018-07-25 10:29:00
Local clock offset: 3.496 ms
Remote clock offset: -1.644 ms

# Below is generated by plot.py at 2018-07-25 11:15:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.82 Mbit/s
  95th percentile per-packet one-way delay: 23.300 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 59.36 Mbit/s
  95th percentile per-packet one-way delay: 23.335 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 40.48 Mbit/s
  95th percentile per-packet one-way delay: 23.089 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 32.21 Mbit/s
  95th percentile per-packet one-way delay: 21.726 ms
  Loss rate: 0.33%
Run 9: Report of Indigo — Data Link
Run 10: Statistics of Indigo

Start at: 2018-07-25 10:49:03
Local clock offset: -2.028 ms
Remote clock offset: -1.51 ms

# Below is generated by plot.py at 2018-07-25 11:15:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.33 Mbit/s
95th percentile per-packet one-way delay: 21.541 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 50.60 Mbit/s
95th percentile per-packet one-way delay: 22.324 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 50.19 Mbit/s
95th percentile per-packet one-way delay: 17.030 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 22.49 Mbit/s
95th percentile per-packet one-way delay: 28.950 ms
Loss rate: 0.27%
Run 10: Report of Indigo — Data Link
Run 1: Statistics of LEDBAT

Start at: 2018-07-25 07:42:10
End at: 2018-07-25 07:42:40
Local clock offset: 1.043 ms
Remote clock offset: -2.504 ms

# Below is generated by plot.py at 2018-07-25 11:15:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.48 Mbit/s
95th percentile per-packet one-way delay: 28.961 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 40.85 Mbit/s
95th percentile per-packet one-way delay: 28.526 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 29.196 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 30.38 Mbit/s
95th percentile per-packet one-way delay: 29.333 ms
Loss rate: 0.28%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2018-07-25 08:03:54
End at: 2018-07-25 08:04:24
Local clock offset: -2.375 ms
Remote clock offset: -7.844 ms

# Below is generated by plot.py at 2018-07-25 11:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.27 Mbit/s
95th percentile per-packet one-way delay: 24.472 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 53.52 Mbit/s
95th percentile per-packet one-way delay: 23.640 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 38.76 Mbit/s
95th percentile per-packet one-way delay: 25.186 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 29.98 Mbit/s
95th percentile per-packet one-way delay: 25.724 ms
Loss rate: 0.42%
Run 2: Report of LEDBAT — Data Link

[Graph showing throughput and packet error rate over time for different flows]
Run 3: Statistics of LEDBAT

Start at: 2018-07-25 08:24:38
End at: 2018-07-25 08:25:08
Local clock offset: 0.464 ms
Remote clock offset: -10.883 ms

# Below is generated by plot.py at 2018-07-25 11:16:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.99 Mbit/s
95th percentile per-packet one-way delay: 25.991 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 44.76 Mbit/s
95th percentile per-packet one-way delay: 26.170 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 44.14 Mbit/s
95th percentile per-packet one-way delay: 25.338 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 23.66 Mbit/s
95th percentile per-packet one-way delay: 30.217 ms
Loss rate: 0.47%
Run 3: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 44.75 Mbit/s)
- Flow 1 egress (mean 44.76 Mbit/s)
- Flow 2 ingress (mean 44.15 Mbit/s)
- Flow 2 egress (mean 44.14 Mbit/s)
- Flow 3 ingress (mean 23.69 Mbit/s)
- Flow 3 egress (mean 23.66 Mbit/s)

Flow 1 (95th percentile 26.17 ms)
Flow 2 (95th percentile 25.34 ms)
Flow 3 (95th percentile 30.22 ms)
Run 4: Statistics of LEDBAT

Start at: 2018-07-25 08:45:46
End at: 2018-07-25 08:46:16
Local clock offset: 0.689 ms
Remote clock offset: -3.508 ms

# Below is generated by plot.py at 2018-07-25 11:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.02 Mbit/s
95th percentile per-packet one-way delay: 25.664 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 24.672 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 41.53 Mbit/s
95th percentile per-packet one-way delay: 26.322 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 30.36 Mbit/s
95th percentile per-packet one-way delay: 26.654 ms
Loss rate: 0.41%
Run 4: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 50.29 Mbit/s)
- Flow 1 egress (mean 50.30 Mbit/s)
- Flow 2 ingress (mean 41.55 Mbit/s)
- Flow 2 egress (mean 41.53 Mbit/s)
- Flow 3 ingress (mean 30.40 Mbit/s)
- Flow 3 egress (mean 30.36 Mbit/s)
Run 5: Statistics of LEDBAT

Start at: 2018-07-25 09:06:35
End at: 2018-07-25 09:07:05
Local clock offset: -0.748 ms
Remote clock offset: -0.653 ms

# Below is generated by plot.py at 2018-07-25 11:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.13 Mbit/s
95th percentile per-packet one-way delay: 24.852 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 54.04 Mbit/s
95th percentile per-packet one-way delay: 24.240 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 24.808 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 30.50 Mbit/s
95th percentile per-packet one-way delay: 26.632 ms
Loss rate: 0.42%
Run 5: Report of LEDBAT — Data Link

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

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

Start at: 2018-07-25 09:27:51
End at: 2018-07-25 09:28:21
Local clock offset: 1.651 ms
Remote clock offset: 5.388 ms

# Below is generated by plot.py at 2018-07-25 11:16:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.84 Mbit/s
95th percentile per.packet one-way delay: 23.040 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 51.09 Mbit/s
95th percentile per.packet one-way delay: 22.573 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 44.38 Mbit/s
95th percentile per.packet one-way delay: 21.591 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 24.65 Mbit/s
95th percentile per.packet one-way delay: 27.356 ms
Loss rate: 0.29%
Run 6: Report of LEDBAT — Data Link
Run 7: Statistics of LEDBAT

End at: 2018-07-25 09:49:07
Local clock offset: 2.693 ms
Remote clock offset: -3.028 ms

# Below is generated by plot.py at 2018-07-25 11:16:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.99 Mbit/s
95th percentile per-packet one-way delay: 26.142 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 53.25 Mbit/s
95th percentile per-packet one-way delay: 25.508 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.91 Mbit/s
95th percentile per-packet one-way delay: 26.836 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 29.60 Mbit/s
95th percentile per-packet one-way delay: 26.003 ms
Loss rate: 0.33%
Run 7: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 53.25 Mbit/s)
- Flow 1 egress (mean 53.25 Mbit/s)
- Flow 2 ingress (mean 38.93 Mbit/s)
- Flow 2 egress (mean 38.91 Mbit/s)
- Flow 3 ingress (mean 29.62 Mbit/s)
- Flow 3 egress (mean 29.60 Mbit/s)
Run 8: Statistics of LEDBAT

Start at: 2018-07-25 10:09:17
End at: 2018-07-25 10:09:47
Local clock offset: 0.764 ms
Remote clock offset: -6.262 ms

# Below is generated by plot.py at 2018-07-25 11:16:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.13 Mbit/s
95th percentile per-packet one-way delay: 25.815 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 51.18 Mbit/s
95th percentile per-packet one-way delay: 25.720 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 44.91 Mbit/s
95th percentile per-packet one-way delay: 24.943 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 30.783 ms
Loss rate: 0.37%
Run 8: Report of LEDBAT — Data Link
Run 9: Statistics of LEDBAT

Start at: 2018-07-25 10:29:45
End at: 2018-07-25 10:30:15
Local clock offset: 2.316 ms
Remote clock offset: -2.483 ms

# Below is generated by plot.py at 2018-07-25 11:16:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.62 Mbit/s
95th percentile per-packet one-way delay: 26.088 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 55.68 Mbit/s
95th percentile per-packet one-way delay: 25.765 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 26.287 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 24.57 Mbit/s
95th percentile per-packet one-way delay: 26.497 ms
Loss rate: 0.34%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-07-25 10:50:16
End at: 2018-07-25 10:50:46
Local clock offset: -2.488 ms
Remote clock offset: -1.27 ms

# Below is generated by plot.py at 2018-07-25 11:16:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.08 Mbit/s
95th percentile per-packet one-way delay: 23.311 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 47.27 Mbit/s
95th percentile per-packet one-way delay: 24.250 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 44.37 Mbit/s
95th percentile per-packet one-way delay: 19.791 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 31.109 ms
Loss rate: 0.49%
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-25 07:46:26
End at: 2018-07-25 07:46:56
Local clock offset: 1.534 ms
Remote clock offset: -2.376 ms

# Below is generated by plot.py at 2018-07-25 11:17:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.82 Mbit/s
95th percentile per-packet one-way delay: 49.861 ms
Loss rate: 4.11%
-- Flow 1:
Average throughput: 62.92 Mbit/s
95th percentile per-packet one-way delay: 38.291 ms
Loss rate: 4.42%
-- Flow 2:
Average throughput: 34.68 Mbit/s
95th percentile per-packet one-way delay: 52.848 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 17.79 Mbit/s
95th percentile per-packet one-way delay: 22.822 ms
Loss rate: 0.31%
Run 1: Report of PCC-Allegro — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 65.76 Mb/s)  Flow 2 ingress (mean 36.11 Mb/s)  Flow 3 ingress (mean 12.80 Mb/s)
Flow 1 egress (mean 62.92 Mb/s)  Flow 2 egress (mean 34.65 Mb/s)  Flow 3 egress (mean 17.79 Mb/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 38.29 ms)  Flow 2 (95th percentile 52.85 ms)  Flow 3 (95th percentile 22.82 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-25 08:07:31
End at: 2018-07-25 08:08:01
Local clock offset: 2.156 ms
Remote clock offset: -8.76 ms

# Below is generated by plot.py at 2018-07-25 11:17:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.23 Mbit/s
95th percentile per-packet one-way delay: 48.954 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 59.88 Mbit/s
95th percentile per-packet one-way delay: 46.680 ms
Loss rate: 3.39%
-- Flow 2:
Average throughput: 37.19 Mbit/s
95th percentile per-packet one-way delay: 49.969 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 29.30 Mbit/s
95th percentile per-packet one-way delay: 50.755 ms
Loss rate: 1.40%
Run 2: Report of PCC-Allegro — Data Link

---

**Graph 1:**
- X-axis: Time (s)
- Y-axis: Throughput (Mbit/s)
- Legend:
  - Blue dashed line: Flow 1 ingress (mean 61.93 Mbit/s)
  - Blue solid line: Flow 1 egress (mean 59.88 Mbit/s)
  - Green dashed line: Flow 2 ingress (mean 37.80 Mbit/s)
  - Green solid line: Flow 2 egress (mean 37.19 Mbit/s)
  - Red dashed line: Flow 3 ingress (mean 29.63 Mbit/s)
  - Red solid line: Flow 3 egress (mean 29.30 Mbit/s)

**Graph 2:**
- X-axis: Time (s)
- Y-axis: Per packet one way delay (ms)
- Legend:
  - Blue dots: Flow 1 (95th percentile 46.68 ms)
  - Green dots: Flow 2 (95th percentile 49.97 ms)
  - Red dots: Flow 3 (95th percentile 50.76 ms)

---

147
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-25 08:28:10
End at: 2018-07-25 08:28:40
Local clock offset: 2.092 ms
Remote clock offset: -11.89 ms

# Below is generated by plot.py at 2018-07-25 11:17:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.20 Mbit/s
  95th percentile per-packet one-way delay: 51.108 ms
  Loss rate: 1.98%
  -- Flow 1:
    Average throughput: 58.75 Mbit/s
    95th percentile per-packet one-way delay: 49.975 ms
    Loss rate: 1.96%
  -- Flow 2:
    Average throughput: 33.81 Mbit/s
    95th percentile per-packet one-way delay: 51.533 ms
    Loss rate: 2.00%
  -- Flow 3:
    Average throughput: 30.36 Mbit/s
    95th percentile per-packet one-way delay: 52.367 ms
    Loss rate: 2.12%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-25 08:49:25
End at: 2018-07-25 08:49:55
Local clock offset: -1.292 ms
Remote clock offset: -2.796 ms

# Below is generated by plot.py at 2018-07-25 11:17:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.93 Mbit/s
95th percentile per-packet one-way delay: 45.113 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 56.99 Mbit/s
95th percentile per-packet one-way delay: 43.937 ms
Loss rate: 3.14%
-- Flow 2:
Average throughput: 37.35 Mbit/s
95th percentile per-packet one-way delay: 45.569 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 30.74 Mbit/s
95th percentile per-packet one-way delay: 46.245 ms
Loss rate: 2.71%
Run 4: Report of PCC-Allegro — Data Link

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

- **Throughput (Mbit/s):**
  - Flow 1 ingress (mean 58.79 Mbit/s)
  - Flow 1 egress (mean 56.99 Mbit/s)
  - Flow 2 ingress (mean 37.98 Mbit/s)
  - Flow 2 egress (mean 37.35 Mbit/s)
  - Flow 3 ingress (mean 31.51 Mbit/s)
  - Flow 3 egress (mean 30.74 Mbit/s)

- **Packet Loss (ms):**
  - Flow 1 (95th percentile 43.94 ms)
  - Flow 2 (95th percentile 45.57 ms)
  - Flow 3 (95th percentile 46.24 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-25 09:10:05
End at: 2018-07-25 09:10:35
Local clock offset: -0.997 ms
Remote clock offset: 0.359 ms

# Below is generated by plot.py at 2018-07-25 11:17:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.74 Mbit/s
95th percentile per-packet one-way delay: 38.024 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 59.75 Mbit/s
95th percentile per-packet one-way delay: 39.331 ms
Loss rate: 6.13%
-- Flow 2:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 20.273 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 17.75 Mbit/s
95th percentile per-packet one-way delay: 17.868 ms
Loss rate: 0.41%
Run 5: Report of PCC-Allegro — Data Link

![Throughput vs Time Graph]

- Flow 1 ingress (mean 63.57 Mbit/s)
- Flow 1 egress (mean 59.75 Mbit/s)
- Flow 2 ingress (mean 39.40 Mbit/s)
- Flow 2 egress (mean 39.34 Mbit/s)
- Flow 3 ingress (mean 17.77 Mbit/s)
- Flow 3 egress (mean 17.75 Mbit/s)

![Per-packet one-way delay Graph]

- Flow 1 (95th percentile 39.33 ms)
- Flow 2 (95th percentile 20.27 ms)
- Flow 3 (95th percentile 17.87 ms)
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-25 09:31:26
End at: 2018-07-25 09:31:56
Local clock offset: 0.496 ms
Remote clock offset: 5.692 ms

# Below is generated by plot.py at 2018-07-25 11:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.78 Mbit/s
95th percentile per-packet one-way delay: 38.238 ms
Loss rate: 3.63%
-- Flow 1:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 39.052 ms
Loss rate: 5.54%
-- Flow 2:
Average throughput: 43.27 Mbit/s
95th percentile per-packet one-way delay: 12.917 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 17.62 Mbit/s
95th percentile per-packet one-way delay: 17.130 ms
Loss rate: 0.32%
Run 6: Report of PCC-Allegro — Data Link
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-25 09:52:11
End at: 2018-07-25 09:52:41
Local clock offset: 0.106 ms
Remote clock offset: -5.217 ms

# Below is generated by plot.py at 2018-07-25 11:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.64 Mbit/s
95th percentile per-packet one-way delay: 45.434 ms
Loss rate: 3.20%
-- Flow 1:
Average throughput: 53.43 Mbit/s
95th percentile per-packet one-way delay: 43.629 ms
Loss rate: 3.49%
-- Flow 2:
Average throughput: 37.69 Mbit/s
95th percentile per-packet one-way delay: 45.937 ms
Loss rate: 3.24%
-- Flow 3:
Average throughput: 27.84 Mbit/s
95th percentile per-packet one-way delay: 46.886 ms
Loss rate: 1.41%
Run 7: Report of PCC-Allegro — Data Link
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-25 10:12:48
Local clock offset: 3.638 ms
Remote clock offset: -3.418 ms

# Below is generated by plot.py at 2018-07-25 11:17:45
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 91.24 Mbit/s
   95th percentile per-packet one-way delay: 41.459 ms
   Loss rate: 4.55%
   -- Flow 1:
      Average throughput: 59.13 Mbit/s
      95th percentile per-packet one-way delay: 39.358 ms
      Loss rate: 5.85%
   -- Flow 2:
      Average throughput: 39.75 Mbit/s
      95th percentile per-packet one-way delay: 42.644 ms
      Loss rate: 2.40%
   -- Flow 3:
      Average throughput: 17.31 Mbit/s
      95th percentile per-packet one-way delay: 18.533 ms
      Loss rate: 0.41%
Run 8: Report of PCC-Allegro — Data Link

![Graph 1: Throughput (Mbps)]

Flow 1 ingress (mean 62.74 Mbit/s)
Flow 1 egress (mean 59.13 Mbit/s)
Flow 2 ingress (mean 40.68 Mbit/s)
Flow 2 egress (mean 39.75 Mbit/s)
Flow 3 ingress (mean 17.35 Mbit/s)
Flow 3 egress (mean 17.31 Mbit/s)

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

Flow 1 (95th percentile 39.36 ms)
Flow 2 (95th percentile 36.64 ms)
Flow 3 (95th percentile 18.53 ms)
Run 9: Statistics of PCC-Allegro

End at: 2018-07-25 10:33:54
Local clock offset: 2.798 ms
Remote clock offset: -1.339 ms

# Below is generated by plot.py at 2018-07-25 11:18:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.18 Mbit/s
95th percentile per-packet one-way delay: 38.728 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 39.336 ms
Loss rate: 2.51%
-- Flow 2:
Average throughput: 33.52 Mbit/s
95th percentile per-packet one-way delay: 21.449 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 18.45 Mbit/s
95th percentile per-packet one-way delay: 16.960 ms
Loss rate: 0.35%
Run 9: Report of PCC-Allegro — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 61.31 Mbps/s)
  - Flow 1 egress (mean 59.83 Mbps/s)
  - Flow 2 ingress (mean 33.52 Mbps/s)
  - Flow 2 egress (mean 33.52 Mbps/s)
  - Flow 3 ingress (mean 18.46 Mbps/s)
  - Flow 3 egress (mean 10.45 Mbps/s)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 39.34 ms)
  - Flow 2 (95th percentile 21.45 ms)
  - Flow 3 (95th percentile 16.96 ms)
Run 10: Statistics of PCC-Allegro

End at: 2018-07-25 10:54:20
Local clock offset: -0.794 ms
Remote clock offset: -2.773 ms

# Below is generated by plot.py at 2018-07-25 11:18:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.05 Mbit/s
95th percentile per-packet one-way delay: 45.327 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 54.27 Mbit/s
95th percentile per-packet one-way delay: 41.448 ms
Loss rate: 6.67%
-- Flow 2:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 51.810 ms
Loss rate: 4.32%
-- Flow 3:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 18.211 ms
Loss rate: 0.52%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-07-25 07:36:52
End at: 2018-07-25 07:37:22
Local clock offset: -0.781 ms
Remote clock offset: 11.841 ms

# Below is generated by plot.py at 2018-07-25 11:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.44 Mbit/s
95th percentile per-packet one-way delay: 27.778 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 52.17 Mbit/s
95th percentile per-packet one-way delay: 26.401 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 30.224 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 25.22 Mbit/s
95th percentile per-packet one-way delay: 8.352 ms
Loss rate: 0.61%
Run 1: Report of PCC-Expr — Data Link

![Throughput Graph](image1)

- **Flow 1 Ingress (mean 52.81 Mbit/s)**
- **Flow 1 Egress (mean 52.17 Mbit/s)**
- **Flow 2 Ingress (mean 38.11 Mbit/s)**
- **Flow 2 Egress (mean 37.54 Mbit/s)**
- **Flow 3 Ingress (mean 25.30 Mbit/s)**
- **Flow 3 Egress (mean 25.22 Mbit/s)**

![Delay Graph](image2)

- **Flow 1 (95th percentile 26.40 ms)**
- **Flow 2 (95th percentile 30.22 ms)**
- **Flow 3 (95th percentile 8.35 ms)**
Run 2: Statistics of PCC-Expr

Start at: 2018-07-25 07:58:47
End at: 2018-07-25 07:59:17
Local clock offset: 0.896 ms
Remote clock offset: -6.398 ms

# Below is generated by plot.py at 2018-07-25 11:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 44.507 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 56.74 Mbit/s
95th percentile per-packet one-way delay: 44.177 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 44.620 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 45.001 ms
Loss rate: 0.77%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2018-07-25 08:19:37
End at: 2018-07-25 08:20:07
Local clock offset: 0.062 ms
Remote clock offset: -11.938 ms

# Below is generated by plot.py at 2018-07-25 11:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.90 Mbit/s
95th percentile per-packet one-way delay: 43.039 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 55.49 Mbit/s
95th percentile per-packet one-way delay: 43.224 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 35.95 Mbit/s
95th percentile per-packet one-way delay: 43.046 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 37.046 ms
Loss rate: 0.51%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2018-07-25 08:40:35
End at: 2018-07-25 08:41:05
Local clock offset: -1.339 ms
Remote clock offset: -4.967 ms

# Below is generated by plot.py at 2018-07-25 11:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.34 Mbit/s
95th percentile per-packet one-way delay: 46.005 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 47.729 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 44.10 Mbit/s
95th percentile per-packet one-way delay: 32.776 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 50.398 ms
Loss rate: 0.61%
Run 4: Report of PCC-Expr — Data Link

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Graph showing Throughput (Mbps) over time (s).}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2.png}
\caption{Graph showing Per-packet one way delay (ms) over time (s).}
\end{figure}
Run 5: Statistics of PCC-Expr

Start at: 2018-07-25 09:01:30
End at: 2018-07-25 09:02:00
Local clock offset: -1.152 ms
Remote clock offset: -2.975 ms

# Below is generated by plot.py at 2018-07-25 11:19:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.66 Mbit/s
  95th percentile per-packet one-way delay: 44.232 ms
  Loss rate: 0.56%
-- Flow 1:
  Average throughput: 52.56 Mbit/s
  95th percentile per-packet one-way delay: 45.005 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 43.46 Mbit/s
  95th percentile per-packet one-way delay: 33.861 ms
  Loss rate: 0.40%
-- Flow 3:
  Average throughput: 21.89 Mbit/s
  95th percentile per-packet one-way delay: 46.962 ms
  Loss rate: 0.85%
Run 5: Report of PCC-Expr — Data Link
Run 6: Statistics of PCC-Expr

End at: 2018-07-25 09:23:22
Local clock offset: -1.301 ms
Remote clock offset: 2.963 ms

# Below is generated by plot.py at 2018-07-25 11:19:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 41.876 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 57.51 Mbit/s
95th percentile per-packet one-way delay: 40.879 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 32.88 Mbit/s
95th percentile per-packet one-way delay: 46.072 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 38.10 Mbit/s
95th percentile per-packet one-way delay: 30.811 ms
Loss rate: 0.63%
Run 6: Report of PCC-Expr — Data Link
Run 7: Statistics of PCC-Expr

Start at: 2018-07-25 09:43:42
End at: 2018-07-25 09:44:12
Local clock offset: -0.765 ms
Remote clock offset: -1.75 ms

# Below is generated by plot.py at 2018-07-25 11:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.14 Mbit/s
95th percentile per-packet one-way delay: 38.490 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 54.17 Mbit/s
95th percentile per-packet one-way delay: 37.373 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 37.16 Mbit/s
95th percentile per-packet one-way delay: 38.814 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 28.08 Mbit/s
95th percentile per-packet one-way delay: 39.156 ms
Loss rate: 0.31%
Run 7: Report of PCC-Expr — Data Link

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

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

---

177
Run 8: Statistics of PCC-Expr

Start at: 2018-07-25 10:04:11
End at: 2018-07-25 10:04:41
Local clock offset: -0.654 ms
Remote clock offset: -4.401 ms

# Below is generated by plot.py at 2018-07-25 11:20:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.03 Mbit/s
  95th percentile per-packet one-way delay: 38.965 ms
  Loss rate: 0.25%
-- Flow 1:
  Average throughput: 58.04 Mbit/s
  95th percentile per-packet one-way delay: 38.419 ms
  Loss rate: 0.20%
-- Flow 2:
  Average throughput: 30.54 Mbit/s
  95th percentile per-packet one-way delay: 39.045 ms
  Loss rate: 0.32%
-- Flow 3:
  Average throughput: 29.38 Mbit/s
  95th percentile per-packet one-way delay: 39.315 ms
  Loss rate: 0.43%
Run 8: Report of PCC-Expr — Data Link
Run 9: Statistics of PCC-Expr

Start at: 2018-07-25 10:24:40
End at: 2018-07-25 10:25:10
Local clock offset: 2.527 ms
Remote clock offset: -1.378 ms

# Below is generated by plot.py at 2018-07-25 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.22 Mbit/s
95th percentile per-packet one-way delay: 47.487 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 50.72 Mbit/s
95th percentile per-packet one-way delay: 33.216 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 37.24 Mbit/s
95th percentile per-packet one-way delay: 50.306 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 23.47 Mbit/s
95th percentile per-packet one-way delay: 49.059 ms
Loss rate: 0.70%
Run 10: Statistics of PCC-Expr

Start at: 2018-07-25 10:45:17
End at: 2018-07-25 10:45:47
Local clock offset: 2.63 ms
Remote clock offset: -1.367 ms

# Below is generated by plot.py at 2018-07-25 11:21:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.01 Mbit/s
95th percentile per-packet one-way delay: 48.668 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 48.86 Mbit/s
95th percentile per-packet one-way delay: 47.469 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 35.04 Mbit/s
95th percentile per-packet one-way delay: 51.699 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 32.90 Mbit/s
95th percentile per-packet one-way delay: 36.244 ms
Loss rate: 0.44%
Run 10: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 49.75 Mbit/s)
- Flow 1 egress (mean 48.86 Mbit/s)
- Flow 2 ingress (mean 35.45 Mbit/s)
- Flow 2 egress (mean 35.04 Mbit/s)
- Flow 3 ingress (mean 32.96 Mbit/s)
- Flow 3 egress (mean 32.90 Mbit/s)
Run 1: Statistics of QUIC Cubic

Local clock offset: -1.267 ms
Remote clock offset: -2.398 ms

# Below is generated by plot.py at 2018-07-25 11:21:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 93.69 Mbit/s
  95th percentile per-packet one-way delay: 25.611 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 56.91 Mbit/s
  95th percentile per-packet one-way delay: 25.503 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 39.87 Mbit/s
  95th percentile per-packet one-way delay: 25.503 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 31.12 Mbit/s
  95th percentile per-packet one-way delay: 46.656 ms
  Loss rate: 0.60%
Run 1: Report of QUIC Cubic — Data Link

---

[Graph 1: Throughtput vs Time]

- **Flow 1 ingress** (mean 56.92 Mbit/s)
- **Flow 1 egress** (mean 56.91 Mbit/s)
- **Flow 2 ingress** (mean 39.89 Mbit/s)
- **Flow 2 egress** (mean 39.87 Mbit/s)
- **Flow 3 ingress** (mean 31.23 Mbit/s)
- **Flow 3 egress** (mean 31.12 Mbit/s)

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

- **Flow 1** (95th percentile 25.50 ms)
- **Flow 2** (95th percentile 25.50 ms)
- **Flow 3** (95th percentile 46.66 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-25 08:09:49
End at: 2018-07-25 08:10:19
Local clock offset: -1.193 ms
Remote clock offset: -10.317 ms

# Below is generated by plot.py at 2018-07-25 11:21:14
# Datalink statistics

-- Total of 3 flows:
Average throughput: 93.70 Mbit/s
95th percentile per-packet one-way delay: 26.307 ms
Loss rate: 0.17%

-- Flow 1:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 26.274 ms
Loss rate: 0.10%

-- Flow 2:
Average throughput: 39.96 Mbit/s
95th percentile per-packet one-way delay: 25.852 ms
Loss rate: 0.19%

-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 47.192 ms
Loss rate: 0.48%
Run 2: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 56.88 Mbit/s)
- Flow 1 egress (mean 56.87 Mbit/s)
- Flow 2 ingress (mean 39.99 Mbit/s)
- Flow 2 egress (mean 39.96 Mbit/s)
- Flow 3 ingress (mean 31.15 Mbit/s)
- Flow 3 egress (mean 31.08 Mbit/s)

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

- Flow 1 (95th percentile 26.27 ms)
- Flow 2 (95th percentile 25.85 ms)
- Flow 3 (95th percentile 47.19 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-25 08:30:25
End at: 2018-07-25 08:30:55
Local clock offset: 0.686 ms
Remote clock offset: -8.367 ms

# Below is generated by plot.py at 2018-07-25 11:21:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 33.056 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 29.243 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 39.42 Mbit/s
95th percentile per-packet one-way delay: 33.667 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 48.376 ms
Loss rate: 0.46%
Run 3: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 56.24 Mbit/s)
- Flow 1 egress (mean 56.24 Mbit/s)
- Flow 2 ingress (mean 39.45 Mbit/s)
- Flow 2 egress (mean 39.42 Mbit/s)
- Flow 3 ingress (mean 31.35 Mbit/s)
- Flow 3 egress (mean 31.30 Mbit/s)
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-25 08:51:41
End at: 2018-07-25 08:52:11
Local clock offset: -0.732 ms
Remote clock offset: -4.1 ms

# Below is generated by plot.py at 2018-07-25 11:21:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 26.137 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 54.60 Mbit/s
95th percentile per-packet one-way delay: 26.177 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.51 Mbit/s
95th percentile per-packet one-way delay: 24.332 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 38.337 ms
Loss rate: 0.52%
Run 4: Report of QUIC Cubic — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image)
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-25 09:12:24
End at: 2018-07-25 09:12:54
Local clock offset: -1.556 ms
Remote clock offset: 1.139 ms

# Below is generated by plot.py at 2018-07-25 11:21:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.15 Mbit/s
95th percentile per-packet one-way delay: 23.015 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 54.15 Mbit/s
95th percentile per-packet one-way delay: 22.986 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 35.61 Mbit/s
95th percentile per-packet one-way delay: 23.510 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 24.033 ms
Loss rate: 0.38%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-25 09:33:57
End at: 2018-07-25 09:34:27
Local clock offset: 0.325 ms
Remote clock offset: 5.821 ms

# Below is generated by plot.py at 2018-07-25 11:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 21.734 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 57.00 Mbit/s
95th percentile per-packet one-way delay: 21.738 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 39.80 Mbit/s
95th percentile per-packet one-way delay: 21.453 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 22.253 ms
Loss rate: 0.45%
Run 6: Report of QUIC Cubic — Data Link

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

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

Start at: 2018-07-25 09:54:24
End at: 2018-07-25 09:54:54
Local clock offset: 0.143 ms
Remote clock offset: -3.601 ms

# Below is generated by plot.py at 2018-07-25 11:21:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.94 Mbit/s
95th percentile per-packet one-way delay: 22.787 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 62.21 Mbit/s
95th percentile per-packet one-way delay: 21.696 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 36.04 Mbit/s
95th percentile per-packet one-way delay: 24.649 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 45.049 ms
Loss rate: 0.50%
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-25 10:15:02
End at: 2018-07-25 10:15:32
Local clock offset: 0.521 ms
Remote clock offset: -2.732 ms

# Below is generated by plot.py at 2018-07-25 11:21:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 23.534 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 54.55 Mbit/s
95th percentile per-packet one-way delay: 23.721 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.52 Mbit/s
95th percentile per-packet one-way delay: 21.386 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.51 Mbit/s
95th percentile per-packet one-way delay: 37.025 ms
Loss rate: 0.50%
Run 8: Report of QUIC Cubic — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 54.56 Mbit/s)
- Flow 1 egress (mean 54.55 Mbit/s)
- Flow 2 ingress (mean 47.55 Mbit/s)
- Flow 2 egress (mean 47.52 Mbit/s)
- Flow 3 ingress (mean 23.57 Mbit/s)
- Flow 3 egress (mean 23.51 Mbit/s)

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

- Flow 1 (95th percentile 23.72 ms)
- Flow 2 (95th percentile 21.39 ms)
- Flow 3 (95th percentile 37.02 ms)

199
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-25 10:35:40  
End at: 2018-07-25 10:36:10  
Local clock offset: 1.59 ms  
Remote clock offset: -0.607 ms

# Below is generated by plot.py at 2018-07-25 11:21:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.52 Mbit/s  
95th percentile per-packet one-way delay: 28.025 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 58.20 Mbit/s  
95th percentile per-packet one-way delay: 27.598 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 36.50 Mbit/s  
95th percentile per-packet one-way delay: 27.516 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 24.37 Mbit/s  
95th percentile per-packet one-way delay: 38.808 ms  
Loss rate: 0.50%
Run 9: Report of QUIC Cubic — Data Link

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

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 58.22 Mbps)
- **Flow 1 egress** (mean 58.20 Mbps)
- **Flow 2 ingress** (mean 36.52 Mbps)
- **Flow 2 egress** (mean 36.50 Mbps)
- **Flow 3 ingress** (mean 24.43 Mbps)
- **Flow 3 egress** (mean 24.37 Mbps)

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

- **Flow 1** (95th percentile 27.60 ms)
- **Flow 2** (95th percentile 27.52 ms)
- **Flow 3** (95th percentile 38.81 ms)
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-25 10:56:05
End at: 2018-07-25 10:56:35
Local clock offset: 2.881 ms
Remote clock offset: -3.286 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.46 Mbit/s
  95th percentile per-packet one-way delay: 35.711 ms
  Loss rate: 0.16%
-- Flow 1:
  Average throughput: 55.51 Mbit/s
  95th percentile per-packet one-way delay: 28.768 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 34.37 Mbit/s
  95th percentile per-packet one-way delay: 44.252 ms
  Loss rate: 0.18%
-- Flow 3:
  Average throughput: 30.57 Mbit/s
  95th percentile per-packet one-way delay: 40.470 ms
  Loss rate: 0.44%
Run 10: Report of QUIC Cubic — Data Link

[Graphs showing throughput and per-packet one-way delay for different flows over time]
Run 1: Statistics of SCReAM

Start at: 2018-07-25 07:47:37
End at: 2018-07-25 07:48:07
Local clock offset: 0.633 ms
Remote clock offset: -4.213 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 18.167 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 18.166 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.140 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.197 ms
Loss rate: 0.36%
Run 1: Report of SCReAM — Data Link

Throughput (Mbps) vs Time (s)

- Flow 1 ingress (mean 0.20 Mbps)
- Flow 1 egress (mean 0.20 Mbps)
- Flow 2 ingress (mean 0.21 Mbps)
- Flow 2 egress (mean 0.21 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)

Per-packet core-to-wire delay (ms)

- Flow 1 (95th percentile 18.17 ms)
- Flow 2 (95th percentile 18.14 ms)
- Flow 3 (95th percentile 18.20 ms)

205
Run 2: Statistics of SCReAM

Start at: 2018-07-25 08:08:44
End at: 2018-07-25 08:09:14
Local clock offset: 1.198 ms
Remote clock offset: -8.852 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 16.124 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.131 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.102 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 16.073 ms
Loss rate: 0.36%
Run 2: Report of SCReAM — Data Link

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

- **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)**

- **Packet one-way delay (ms)**
  - **Flow 1 (95th percentile 16.13 ms)**
  - **Flow 2 (95th percentile 16.10 ms)**
  - **Flow 3 (95th percentile 16.07 ms)**

207
Run 3: Statistics of SCReAM

Start at: 2018-07-25 08:29:20
End at: 2018-07-25 08:29:50
Local clock offset: -0.794 ms
Remote clock offset: -11.235 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 15.972 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 15.945 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 15.960 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.025 ms
Loss rate: 0.35%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-07-25 08:50:36
End at: 2018-07-25 08:51:06
Local clock offset: 1.371 ms
Remote clock offset: -3.06 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 15.890 ms
  Loss rate: 0.19%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 15.881 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 15.890 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 15.892 ms
  Loss rate: 0.35%
Run 4: Report of SCReAM — Data Link

---

First diagram:

- X-axis: Time (s)
- Y-axis: Throughput (Mbps)
- Legend:
  - 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)

Second diagram:

- X-axis: Time (s)
- Y-axis: Per-packet convoy delay (ms)
- Legend:
  - Flow 1 (95th percentile 15.88 ms)
  - Flow 2 (95th percentile 15.89 ms)
  - Flow 3 (95th percentile 15.89 ms)
Run 5: Statistics of SCReAM

Start at: 2018-07-25 09:11:19
End at: 2018-07-25 09:11:49
Local clock offset: -1.773 ms
Remote clock offset: 1.635 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 10.822 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.791 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.838 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 10.845 ms
Loss rate: 0.35%
Run 5: Report of SCReAM — Data Link

[Graph 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 0.22 Mbit/s)
- Flow 3 egress (mean 0.22 Mbit/s)
Run 6: Statistics of SCReAM

Start at: 2018-07-25 09:32:51
End at: 2018-07-25 09:33:21
Local clock offset: 1.918 ms
Remote clock offset: 4.347 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.851 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 26.320 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 27.099 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.221 ms
Loss rate: 0.35%
Run 7: Statistics of SCReAM

Start at: 2018-07-25 09:53:19
End at: 2018-07-25 09:53:49
Local clock offset: -0.233 ms
Remote clock offset: -3.513 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 11.382 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.395 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.372 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.349 ms
  Loss rate: 0.35%
Run 7: Report of SCReAM — Data Link

![Throughput graph](graph1)

![Packet delay graph](graph2)
Run 8: Statistics of SCReAM

End at: 2018-07-25 10:14:28
Local clock offset: 2.234 ms
Remote clock offset: -2.999 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 14.261 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.245 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.271 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.284 ms
Loss rate: 0.36%
Run 8: Report of SCReAM — Data Link

![Throughput Graph]

Throughput (Mbps)

Time (s)

- 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 Graph]

Rate packet one way delay (ms)

Time (s)

- Flow 1 (95th percentile 14.24 ms)
- Flow 2 (95th percentile 14.27 ms)
- Flow 3 (95th percentile 14.28 ms)
Run 9: Statistics of SCReAM

Start at: 2018-07-25 10:34:35
End at: 2018-07-25 10:35:05
Local clock offset: 0.677 ms
Remote clock offset: -2.929 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 14.716 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.715 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.716 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.716 ms
Loss rate: 0.36%
Run 9: Report of SCReAM — Data Link

Throughput [Mbps]

Time (s)

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)

Per packet: cost [kms] — delay [ms]

Flow 1 (95th percentile 14.71 ms) — Flow 2 (95th percentile 14.72 ms) — Flow 3 (95th percentile 14.72 ms)
Run 10: Statistics of SCReAM

Start at: 2018-07-25 10:55:00
Local clock offset: 2.346 ms
Remote clock offset: -2.339 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 15.357 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 15.348 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 15.150 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 15.408 ms
Loss rate: 0.35%
Run 10: Report of SCReAM — Data Link

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

Legend:
- Flow 1 ingress (mean 0.16 Mbit/s)
- Flow 1 egress (mean 0.16 Mbit/s)
- Flow 2 ingress (mean 0.13 Mbit/s)
- Flow 2 egress (mean 0.13 Mbit/s)
- Flow 3 ingress (mean 0.22 Mbit/s)
- Flow 3 egress (mean 0.22 Mbit/s)
Run 1: Statistics of Sprout

Start at: 2018-07-25 07:45:16
End at: 2018-07-25 07:45:46
Local clock offset: 1.49 ms
Remote clock offset: -1.892 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 38.73 Mbit/s
  95th percentile per-packet one-way delay: 26.333 ms
  Loss rate: 0.16%
-- Flow 1:
  Average throughput: 19.66 Mbit/s
  95th percentile per-packet one-way delay: 25.486 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 19.28 Mbit/s
  95th percentile per-packet one-way delay: 26.681 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 18.96 Mbit/s
  95th percentile per-packet one-way delay: 27.789 ms
  Loss rate: 0.20%
Run 1: Report of Sprout — Data Link

![Graph showing throughput over time for different flows]

- Flow 1 ingress (mean 19.66 Mbit/s)
- Flow 1 egress (mean 19.66 Mbit/s)
- Flow 2 ingress (mean 19.29 Mbit/s)
- Flow 2 egress (mean 19.28 Mbit/s)
- Flow 3 ingress (mean 18.97 Mbit/s)
- Flow 3 egress (mean 18.96 Mbit/s)

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

- Flow 1 (95th percentile 25.49 ms)
- Flow 2 (95th percentile 26.68 ms)
- Flow 3 (95th percentile 27.79 ms)
Run 2: Statistics of Sprout

Start at: 2018-07-25 08:06:21
End at: 2018-07-25 08:06:51
Local clock offset: 1.074 ms
Remote clock offset: -9.696 ms

# Below is generated by plot.py at 2018-07-25 11:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 27.028 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 19.63 Mbit/s
95th percentile per-packet one-way delay: 26.341 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 27.639 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 19.07 Mbit/s
95th percentile per-packet one-way delay: 27.848 ms
Loss rate: 0.45%
Run 2: Report of Sprout — Data Link

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

- **Flow 1 Ingress** (mean 19.64 Mbps)
- **Flow 1 Egress** (mean 19.63 Mbps)
- **Flow 2 Ingress** (mean 19.75 Mbps)
- **Flow 2 Egress** (mean 19.73 Mbps)
- **Flow 3 Ingress** (mean 19.10 Mbps)
- **Flow 3 Egress** (mean 19.07 Mbps)

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

- **Flow 1** (95th percentile 26.34 ms)
- **Flow 2** (95th percentile 27.64 ms)
- **Flow 3** (95th percentile 27.85 ms)
Run 3: Statistics of Sprout

Start at: 2018-07-25 08:27:00
End at: 2018-07-25 08:27:30
Local clock offset: 1.788 ms
Remote clock offset: -10.771 ms

# Below is generated by plot.py at 2018-07-25 11:22:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 27.285 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 19.60 Mbit/s
95th percentile per-packet one-way delay: 26.502 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 19.59 Mbit/s
95th percentile per-packet one-way delay: 27.414 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 19.16 Mbit/s
95th percentile per-packet one-way delay: 28.706 ms
Loss rate: 0.43%
Run 3: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 19.60 Mbit/s)
- Flow 1 egress (mean 19.60 Mbit/s)
- Flow 2 ingress (mean 19.60 Mbit/s)
- Flow 2 egress (mean 19.59 Mbit/s)
- Flow 3 ingress (mean 19.19 Mbit/s)
- Flow 3 egress (mean 19.16 Mbit/s)

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

- Flow 1 (95th percentile 26.50 ms)
- Flow 2 (95th percentile 27.41 ms)
- Flow 3 (95th percentile 28.71 ms)

229
Run 4: Statistics of Sprout

Start at: 2018-07-25 08:48:16
End at: 2018-07-25 08:48:46
Local clock offset: -1.648 ms
Remote clock offset: -2.894 ms

# Below is generated by plot.py at 2018-07-25 11:22:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.52 Mbit/s
95th percentile per-packet one-way delay: 22.139 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 20.15 Mbit/s
95th percentile per-packet one-way delay: 21.287 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 19.62 Mbit/s
95th percentile per-packet one-way delay: 22.638 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 19.19 Mbit/s
95th percentile per-packet one-way delay: 23.162 ms
Loss rate: 0.10%
Run 4: Report of Sprout — Data Link

![Graph showing throughput and packet loss over time for different flows.]
Run 5: Statistics of Sprout

Start at: 2018-07-25 09:08:58
End at: 2018-07-25 09:09:28
Local clock offset: 1.53 ms
Remote clock offset: 0.68 ms

# Below is generated by plot.py at 2018-07-25 11:22:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.97 Mbit/s
95th percentile per-packet one-way delay: 25.009 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 20.23 Mbit/s
95th percentile per-packet one-way delay: 23.895 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 25.566 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 19.59 Mbit/s
95th percentile per-packet one-way delay: 26.506 ms
Loss rate: 0.48%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

Start at: 2018-07-25 09:30:17
End at: 2018-07-25 09:30:47
Local clock offset: -1.003 ms
Remote clock offset: 5.434 ms

# Below is generated by plot.py at 2018-07-25 11:22:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 38.97 Mbit/s
  95th percentile per-packet one-way delay: 19.438 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 19.76 Mbit/s
  95th percentile per-packet one-way delay: 18.491 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 19.32 Mbit/s
  95th percentile per-packet one-way delay: 18.861 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 19.25 Mbit/s
  95th percentile per-packet one-way delay: 22.214 ms
  Loss rate: 0.25%
Run 6: Report of Sprout — Data Link

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

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

Start at: 2018-07-25 09:51:03
End at: 2018-07-25 09:51:33
Local clock offset: 2.84 ms
Remote clock offset: -3.367 ms

# Below is generated by plot.py at 2018-07-25 11:22:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.44 Mbit/s
  95th percentile per-packet one-way delay: 24.701 ms
  Loss rate: 0.15%
-- Flow 1:
  Average throughput: 19.95 Mbit/s
  95th percentile per-packet one-way delay: 24.196 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 19.73 Mbit/s
  95th percentile per-packet one-way delay: 24.986 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 19.31 Mbit/s
  95th percentile per-packet one-way delay: 25.483 ms
  Loss rate: 0.34%
Run 7: Report of Sprout — Data Link

---

### Throughput (Mb/s)

- Flow 1 ingress (mean 19.96 Mb/s)
- Flow 1 egress (mean 19.95 Mb/s)
- Flow 2 ingress (mean 19.74 Mb/s)
- Flow 2 egress (mean 19.73 Mb/s)
- Flow 3 ingress (mean 19.33 Mb/s)
- Flow 3 egress (mean 19.31 Mb/s)

---

### Per Packet One Way Delay (ms)

- Flow 1 (95th percentile 24.20 ms)
- Flow 2 (95th percentile 24.99 ms)
- Flow 3 (95th percentile 25.48 ms)
Run 8: Statistics of Sprout

End at: 2018-07-25 10:12:09
Local clock offset: 1.106 ms
Remote clock offset: -3.479 ms

# Below is generated by plot.py at 2018-07-25 11:22:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.74 Mbit/s
  95th percentile per-packet one-way delay: 22.816 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 20.15 Mbit/s
  95th percentile per-packet one-way delay: 22.283 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 19.74 Mbit/s
  95th percentile per-packet one-way delay: 22.438 ms
  Loss rate: 0.21%
-- Flow 3:
  Average throughput: 19.64 Mbit/s
  95th percentile per-packet one-way delay: 24.781 ms
  Loss rate: 0.45%
Run 8: Report of Sprout — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 20.15 Mbps)
- Flow 1 egress (mean 20.15 Mbps)
- Flow 2 ingress (mean 19.76 Mbps)
- Flow 2 egress (mean 19.74 Mbps)
- Flow 3 ingress (mean 19.65 Mbps)
- Flow 3 egress (mean 19.64 Mbps)

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

- Flow 1 (95th percentile 22.28 ms)
- Flow 2 (95th percentile 22.44 ms)
- Flow 3 (95th percentile 24.78 ms)
Run 9: Statistics of Sprout

Start at: 2018-07-25 10:32:12
End at: 2018-07-25 10:32:42
Local clock offset: 3.645 ms
Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2018-07-25 11:22:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.72 Mbit/s
  95th percentile per-packet one-way delay: 26.904 ms
  Loss rate: 0.16%
-- Flow 1:
  Average throughput: 20.16 Mbit/s
  95th percentile per-packet one-way delay: 26.189 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 19.85 Mbit/s
  95th percentile per-packet one-way delay: 27.073 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 19.30 Mbit/s
  95th percentile per-packet one-way delay: 28.333 ms
  Loss rate: 0.46%
Run 9: Report of Sprout — Data Link

**Graph 1:**
- **Throughput:** vs. **Time (s)**
- Lines represent different flows with specified mean throughput (in Mbit/s).

**Graph 2:**
- **Per packet one way delay:** vs. **Time (s)**
- Different colored dots represent different flows with specified 95th percentile delay (in ms).
Run 10: Statistics of Sprout

End at: 2018-07-25 10:53:11
Local clock offset: 1.749 ms
Remote clock offset: -0.834 ms

# Below is generated by plot.py at 2018-07-25 11:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 23.394 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 20.60 Mbit/s
95th percentile per-packet one-way delay: 22.339 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 20.32 Mbit/s
95th percentile per-packet one-way delay: 23.700 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 19.93 Mbit/s
95th percentile per-packet one-way delay: 24.803 ms
Loss rate: 0.20%
Run 10: Report of Sprout — Data Link

throughput (Mbps)

Flow 1 ingress (mean 20.61 Mbps)
Flow 2 ingress (mean 20.30 Mbps)
Flow 3 ingress (mean 19.94 Mbps)
Flow 1 egress (mean 20.60 Mbps)
Flow 2 egress (mean 20.32 Mbps)
Flow 3 egress (mean 19.93 Mbps)

Packet Error Rate (PER)

Flow 1 (95th percentile 22.34 ms)
Flow 2 (95th percentile 23.70 ms)
Flow 3 (95th percentile 24.80 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-25 07:34:08
End at: 2018-07-25 07:34:38
Local clock offset: -0.79 ms
Remote clock offset: 0.692 ms

# Below is generated by plot.py at 2018-07-25 11:24:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.57 Mbit/s
95th percentile per-packet one-way delay: 47.936 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 57.97 Mbit/s
95th percentile per-packet one-way delay: 30.042 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 35.50 Mbit/s
95th percentile per-packet one-way delay: 48.583 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 24.01 Mbit/s
95th percentile per-packet one-way delay: 50.504 ms
Loss rate: 1.78%
Run 1: Report of TaoVA-100x — Data Link

Throughput (Mbits/s)

Time (s)

Flow 1 ingress (mean 58.00 Mbit/s)  Flow 1 egress (mean 57.97 Mbit/s)
Flow 2 ingress (mean 35.63 Mbit/s)  Flow 2 egress (mean 35.50 Mbit/s)
Flow 3 ingress (mean 24.34 Mbit/s)  Flow 3 egress (mean 24.01 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 30.04 ms)  Flow 2 (95th percentile 48.38 ms)  Flow 3 (95th percentile 50.50 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-25 07:56:09
End at: 2018-07-25 07:56:39
Local clock offset: 0.176 ms
Remote clock offset: -5.243 ms

# Below is generated by plot.py at 2018-07-25 11:24:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.58 Mbit/s
95th percentile per-packet one-way delay: 53.414 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 35.402 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 53.937 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 54.180 ms
Loss rate: 2.11%
Run 2: Report of TaoVA-100x — Data Link

![Graph 1: Throughput](image1)

![Graph 2: Per-packet one-way delay](image2)
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-25 08:17:09
End at: 2018-07-25 08:17:39
Local clock offset: 1.652 ms
Remote clock offset: -10.838 ms

# Below is generated by plot.py at 2018-07-25 11:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.67 Mbit/s
95th percentile per-packet one-way delay: 45.568 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 57.66 Mbit/s
95th percentile per-packet one-way delay: 45.430 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 39.65 Mbit/s
95th percentile per-packet one-way delay: 45.629 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 31.91 Mbit/s
95th percentile per-packet one-way delay: 45.713 ms
Loss rate: 2.42%
Run 3: Report of TaoVA-100x — Data Link

![Graph showing data link performance](image)

![Graph showing packet error rate](image)
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-25 08:37:45
End at: 2018-07-25 08:38:15
Local clock offset: -1.753 ms
Remote clock offset: 11.239 ms

# Below is generated by plot.py at 2018-07-25 11:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 25.016 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 57.64 Mbit/s
95th percentile per-packet one-way delay: 24.786 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 25.047 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 31.27 Mbit/s
95th percentile per-packet one-way delay: 25.268 ms
Loss rate: 4.67%
Run 4: Report of TaoVA-100x — Data Link

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

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 57.92 Mbps)
- **Flow 2 ingress** (mean 40.09 Mbps)
- **Flow 3 ingress** (mean 32.67 Mbps)
- **Flow 1 egress** (mean 57.64 Mbps)
- **Flow 2 egress** (mean 39.87 Mbps)
- **Flow 3 egress** (mean 31.27 Mbps)

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

- **Flow 1 95th percentile** 24.79 ms
- **Flow 2 95th percentile** 25.05 ms
- **Flow 3 95th percentile** 25.27 ms
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-25 08:58:57
End at: 2018-07-25 08:59:27
Local clock offset: -0.46 ms
Remote clock offset: -2.319 ms

# Below is generated by plot.py at 2018-07-25 11:24:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.59 Mbit/s
  95th percentile per-packet one-way delay: 42.700 ms
  Loss rate: 1.41%
-- Flow 1:
  Average throughput: 57.69 Mbit/s
  95th percentile per-packet one-way delay: 42.304 ms
  Loss rate: 0.69%
-- Flow 2:
  Average throughput: 39.67 Mbit/s
  95th percentile per-packet one-way delay: 42.792 ms
  Loss rate: 1.76%
-- Flow 3:
  Average throughput: 31.61 Mbit/s
  95th percentile per-packet one-way delay: 43.033 ms
  Loss rate: 4.35%
Run 5: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 58.01 Mbit/s)
- Flow 1 egress (mean 57.69 Mbit/s)
- Flow 2 ingress (mean 40.29 Mbit/s)
- Flow 2 egress (mean 39.67 Mbit/s)
- Flow 3 ingress (mean 32.91 Mbit/s)
- Flow 3 egress (mean 31.61 Mbit/s)

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

- Flow 1 (95th percentile 42.30 ms)
- Flow 2 (95th percentile 42.79 ms)
- Flow 3 (95th percentile 43.03 ms)

253
Run 6: Statistics of TaoVA-100x

End at: 2018-07-25 09:20:43
Local clock offset: -1.815 ms
Remote clock offset: 3.144 ms

# Below is generated by plot.py at 2018-07-25 11:24:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 46.140 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 62.43 Mbit/s
95th percentile per-packet one-way delay: 29.586 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 32.59 Mbit/s
95th percentile per-packet one-way delay: 47.728 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 48.196 ms
Loss rate: 1.69%
Run 6: Report of TaoVA-100x — Data Link

![Graph showing throughput and per-packet one-way delay over time](image)
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-25 09:41:07
End at: 2018-07-25 09:41:37
Local clock offset: 2.355 ms
Remote clock offset: -0.377 ms

# Below is generated by plot.py at 2018-07-25 11:24:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.54 Mbit/s
95th percentile per-packet one-way delay: 42.463 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 57.66 Mbit/s
95th percentile per-packet one-way delay: 42.273 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 42.525 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 32.10 Mbit/s
95th percentile per-packet one-way delay: 42.675 ms
Loss rate: 1.47%
Run 7: Report of TaoVA-100x — Data Link

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

![Graph 2: Per packet one way delay](image2)
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-25 10:01:43
End at: 2018-07-25 10:02:13
Local clock offset: 2.728 ms
Remote clock offset: -3.772 ms

# Below is generated by plot.py at 2018-07-25 11:24:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.45 Mbit/s
95th percentile per-packet one-way delay: 42.485 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 57.56 Mbit/s
95th percentile per-packet one-way delay: 42.386 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 39.42 Mbit/s
95th percentile per-packet one-way delay: 42.543 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 32.06 Mbit/s
95th percentile per-packet one-way delay: 42.589 ms
Loss rate: 1.16%
Run 8: Report of TaoVA-100x — Data Link

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

- **Throughput (Mbps)**
  - **Flow 1 Ingress (mean 57.71 Mbps)**
  - **Flow 1 Egress (mean 57.56 Mbps)**
  - **Flow 2 Ingress (mean 39.96 Mbps)**
  - **Flow 2 Egress (mean 39.42 Mbps)**
  - **Flow 3 Ingress (mean 32.30 Mbps)**
  - **Flow 3 Egress (mean 32.06 Mbps)**

- **Per-packet one-way delay (ms)**
  - **Flow 1 (95th percentile 42.39 ms)**
  - **Flow 2 (95th percentile 42.54 ms)**
  - **Flow 3 (95th percentile 42.59 ms)**
Run 9: Statistics of TaoVA-100x

Local clock offset: 0.851 ms
Remote clock offset: -3.549 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.53 Mbit/s
  95th percentile per-packet one-way delay: 51.682 ms
  Loss rate: 0.45%
-- Flow 1:
  Average throughput: 56.12 Mbit/s
  95th percentile per-packet one-way delay: 51.446 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 46.96 Mbit/s
  95th percentile per-packet one-way delay: 34.132 ms
  Loss rate: 0.24%
-- Flow 3:
  Average throughput: 21.52 Mbit/s
  95th percentile per-packet one-way delay: 52.832 ms
  Loss rate: 1.64%
Run 9: Report of TaoVA-100x — Data Link

![Throughput Graph](chart1.png)

Throughput (Mbit/s) vs Time (s)

- Flow 1 ingress (mean 59.29 Mbit/s)
- Flow 1 egress (mean 56.12 Mbit/s)
- Flow 2 ingress (mean 47.01 Mbit/s)
- Flow 2 egress (mean 46.86 Mbit/s)
- Flow 3 ingress (mean 21.82 Mbit/s)
- Flow 3 egress (mean 21.52 Mbit/s)

![Delay Graph](chart2.png)

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

- Flow 1 (95th percentile 51.45 ms)
- Flow 2 (95th percentile 34.13 ms)
- Flow 3 (95th percentile 52.83 ms)
Run 10: Statistics of TaoVA-100x

Local clock offset: -1.622 ms
Remote clock offset: -1.269 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.45 Mbit/s
95th percentile per-packet one-way delay: 47.800 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 48.19 Mbit/s
95th percentile per-packet one-way delay: 43.133 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 44.50 Mbit/s
95th percentile per-packet one-way delay: 33.383 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 22.94 Mbit/s
95th percentile per-packet one-way delay: 54.806 ms
Loss rate: 1.03%
Run 10: Report of TaoVA-100x — Data Link

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

![Graph 2: Per-packet one-way delay (ms)]
Run 1: Statistics of TCP Vegas

Start at: 2018-07-25 07:51:09
End at: 2018-07-25 07:51:39
Local clock offset: 0.46 ms
Remote clock offset: -2.847 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.12 Mbit/s
95th percentile per-packet one-way delay: 19.168 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 57.44 Mbit/s
95th percentile per-packet one-way delay: 19.185 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.59 Mbit/s
95th percentile per-packet one-way delay: 19.187 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 40.23 Mbit/s
95th percentile per-packet one-way delay: 18.802 ms
Loss rate: 0.36%
Run 1: Report of TCP Vegas — Data Link

---

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

---

Flow 1 ingress (mean 57.44 Mbit/s)  
Flow 1 egress (mean 57.44 Mbit/s)  
Flow 2 ingress (mean 36.58 Mbit/s)  
Flow 2 egress (mean 36.59 Mbit/s)  
Flow 3 ingress (mean 40.27 Mbit/s)  
Flow 3 egress (mean 40.23 Mbit/s)
Run 2: Statistics of TCP Vegas

Start at: 2018-07-25 08:12:06
End at: 2018-07-25 08:12:36
Local clock offset: -2.319 ms
Remote clock offset: -10.29 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.47 Mbit/s
  95th percentile per-packet one-way delay: 15.312 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 57.51 Mbit/s
  95th percentile per-packet one-way delay: 15.228 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 37.65 Mbit/s
  95th percentile per-packet one-way delay: 15.467 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 38.84 Mbit/s
  95th percentile per-packet one-way delay: 15.033 ms
  Loss rate: 0.30%
Run 2: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 57.48 Mbps)
- Flow 1 egress (mean 57.51 Mbps)
- Flow 2 ingress (mean 37.64 Mbps)
- Flow 2 egress (mean 37.65 Mbps)
- Flow 3 ingress (mean 38.85 Mbps)
- Flow 3 egress (mean 38.84 Mbps)

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

- Flow 1 (95th percentile 15.23 ms)
- Flow 2 (95th percentile 15.47 ms)
- Flow 3 (95th percentile 15.03 ms)
Run 3: Statistics of TCP Vegas

Start at: 2018-07-25 08:32:46
End at: 2018-07-25 08:33:16
Local clock offset: -0.666 ms
Remote clock offset: -9.591 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.39 Mbit/s
95th percentile per-packet one-way delay: 20.535 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 53.60 Mbit/s
95th percentile per-packet one-way delay: 21.122 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 45.26 Mbit/s
95th percentile per-packet one-way delay: 19.516 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.12 Mbit/s
95th percentile per-packet one-way delay: 21.678 ms
Loss rate: 0.26%
Run 3: Report of TCP Vegas — Data Link

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

- **Flow 1** ingress (mean 53.57 Mbit/s) and egress (mean 53.60 Mbit/s)
- **Flow 2** ingress (mean 45.26 Mbit/s) and egress (mean 45.26 Mbit/s)
- **Flow 3** ingress (mean 32.12 Mbit/s) and egress (mean 32.12 Mbit/s)
Run 4: Statistics of TCP Vegas

Start at: 2018-07-25 08:53:59
End at: 2018-07-25 08:54:29
Local clock offset: -1.928 ms
Remote clock offset: -1.833 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.09 Mbit/s
95th percentile per-packet one-way delay: 14.467 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.90 Mbit/s
95th percentile per-packet one-way delay: 13.957 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 14.664 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 25.75 Mbit/s
95th percentile per-packet one-way delay: 15.360 ms
Loss rate: 0.30%
Run 4: Report of TCP Vegas — Data Link

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

Legend:
- Flow 1 ingress (mean 59.90 Mbit/s)
- Flow 1 egress (mean 59.90 Mbit/s)
- Flow 2 ingress (mean 35.51 Mbit/s)
- Flow 2 egress (mean 35.52 Mbit/s)
- Flow 3 ingress (mean 25.76 Mbit/s)
- Flow 3 egress (mean 25.75 Mbit/s)
Run 5: Statistics of TCP Vegas

Start at: 2018-07-25 09:14:49
End at: 2018-07-25 09:15:19
Local clock offset: 0.378 ms
Remote clock offset: 1.614 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 16.084 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 58.66 Mbit/s
95th percentile per-packet one-way delay: 15.957 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 38.58 Mbit/s
95th percentile per-packet one-way delay: 16.009 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.99 Mbit/s
95th percentile per-packet one-way delay: 16.409 ms
Loss rate: 0.28%
Run 5: Report of TCP Vegas — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 58.64 Mbps)
  - Flow 1 egress (mean 58.66 Mbps)
  - Flow 2 ingress (mean 38.57 Mbps)
  - Flow 2 egress (mean 38.58 Mbps)
  - Flow 3 ingress (mean 32.99 Mbps)
  - Flow 3 egress (mean 32.99 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 15.96 ms)
  - Flow 2 (95th percentile 16.01 ms)
  - Flow 3 (95th percentile 16.41 ms)
Run 6: Statistics of TCP Vegas

Start at: 2018-07-25 09:36:15
End at: 2018-07-25 09:36:45
Local clock offset: -0.457 ms
Remote clock offset: 4.613 ms

# Below is generated by plot.py at 2018-07-25 11:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.10 Mbit/s
95th percentile per-packet one-way delay: 14.487 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 25.58 Mbit/s
95th percentile per-packet one-way delay: 14.433 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 35.44 Mbit/s
95th percentile per-packet one-way delay: 14.676 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.92 Mbit/s
95th percentile per-packet one-way delay: 12.649 ms
Loss rate: 0.29%
Run 6: Report of TCP Vegas — Data Link

The graphs depict the throughput and per-packet one-way delay for three flows (1, 2, and 3) over a 30-second period. The throughput graph shows the average throughput for each flow, with lines indicating the ingress and egress data rates. The per-packet one-way delay graph illustrates the delay variations for each flow, with markers indicating the 95th percentile delay for each flow.
Run 7: Statistics of TCP Vegas

Start at: 2018-07-25 09:56:40
End at: 2018-07-25 09:57:10
Local clock offset: -0.422 ms
Remote clock offset: -4.317 ms

# Below is generated by plot.py at 2018-07-25 11:26:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.19 Mbit/s
  95th percentile per-packet one-way delay: 14.208 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 56.24 Mbit/s
  95th percentile per-packet one-way delay: 13.874 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 40.16 Mbit/s
  95th percentile per-packet one-way delay: 14.130 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 33.80 Mbit/s
  95th percentile per-packet one-way delay: 14.741 ms
  Loss rate: 0.26%
Run 7: Report of TCP Vegas — Data Link

![Graph showing throughput and per-packet round-trip delay over time for different flows.](image)
Run 8: Statistics of TCP Vegas

Start at: 2018-07-25 10:17:21
End at: 2018-07-25 10:17:51
Local clock offset: 1.28 ms
Remote clock offset: -1.866 ms

# Below is generated by plot.py at 2018-07-25 11:26:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.96 Mbit/s
95th percentile per-packet one-way delay: 15.100 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 15.211 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 15.124 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 14.950 ms
Loss rate: 0.28%
Run 8: Report of TCP Vegas — Data Link

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 48.45 Mbit/s)
- Flow 1 egress (mean 48.46 Mbit/s)
- Flow 2 ingress (mean 39.52 Mbit/s)
- Flow 2 egress (mean 39.53 Mbit/s)
- Flow 3 ingress (mean 45.72 Mbit/s)
- Flow 3 egress (mean 45.70 Mbit/s)

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

- Flow 1 (95th percentile 15.21 ms)
- Flow 2 (95th percentile 15.12 ms)
- Flow 3 (95th percentile 14.95 ms)

279
Run 9: Statistics of TCP Vegas

End at: 2018-07-25 10:38:29
Local clock offset: 1.827 ms
Remote clock offset: -2.39 ms

# Below is generated by plot.py at 2018-07-25 11:26:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.67 Mbit/s
95th percentile per-packet one-way delay: 23.244 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 23.361 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.13 Mbit/s
95th percentile per-packet one-way delay: 22.065 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 26.730 ms
Loss rate: 0.36%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

End at: 2018-07-25 10:58:52
Local clock offset: -0.255 ms
Remote clock offset: -1.702 ms

# Below is generated by plot.py at 2018-07-25 11:26:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.71 Mbit/s
95th percentile per-packet one-way delay: 22.006 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 57.18 Mbit/s
95th percentile per-packet one-way delay: 20.409 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.49 Mbit/s
95th percentile per-packet one-way delay: 24.964 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.82 Mbit/s
95th percentile per-packet one-way delay: 19.496 ms
Loss rate: 0.34%
Run 10: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress** (mean 57.16 Mbit/s)
- **Flow 1 egress** (mean 57.18 Mbit/s)
- **Flow 2 ingress** (mean 36.49 Mbit/s)
- **Flow 2 egress** (mean 36.49 Mbit/s)
- **Flow 3 ingress** (mean 24.84 Mbit/s)
- **Flow 3 egress** (mean 24.62 Mbit/s)

![Graph 2: Per Packet Round Trip Delay](image2)

- **Flow 1** (95th percentile 20.41 ms)
- **Flow 2** (95th percentile 24.96 ms)
- **Flow 3** (95th percentile 19.50 ms)
Run 1: Statistics of Verus

Start at: 2018-07-25 07:52:25
End at: 2018-07-25 07:52:55
Local clock offset: -0.833 ms
Remote clock offset: -4.837 ms

# Below is generated by plot.py at 2018-07-25 11:26:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 43.821 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 55.62 Mbit/s
95th percentile per-packet one-way delay: 40.190 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 45.236 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 33.01 Mbit/s
95th percentile per-packet one-way delay: 49.326 ms
Loss rate: 0.72%
Run 1: Report of Verus — Data Link

[Graph of network performance metrics over time for different flows, showing throughput and packet delay distributions.]

285
Run 2: Statistics of Verus

Start at: 2018-07-25 08:13:19
End at: 2018-07-25 08:13:49
Local clock offset: -0.896 ms
Remote clock offset: -11.905 ms

# Below is generated by plot.py at 2018-07-25 11:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.90 Mbit/s
95th percentile per-packet one-way delay: 40.989 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 61.28 Mbit/s
95th percentile per-packet one-way delay: 39.247 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 36.68 Mbit/s
95th percentile per-packet one-way delay: 48.904 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 56.334 ms
Loss rate: 0.39%
Run 2: Report of Verus — Data Link

![Run 2: Report of Verus — Data Link](image)
Run 3: Statistics of Verus

Start at: 2018-07-25 08:34:01
End at: 2018-07-25 08:34:31
Local clock offset: -1.805 ms
Remote clock offset: -9.265 ms

# Below is generated by plot.py at 2018-07-25 11:27:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.45 Mbit/s
95th percentile per-packet one-way delay: 38.871 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 54.23 Mbit/s
95th percentile per-packet one-way delay: 37.691 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 34.55 Mbit/s
95th percentile per-packet one-way delay: 46.270 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 24.97 Mbit/s
95th percentile per-packet one-way delay: 49.338 ms
Loss rate: 0.44%
Run 3: Report of Verus — Data Link

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

- Flow 1 ingress: mean 54.19 Mbit/s
- Flow 2 ingress: mean 34.51 Mbit/s
- Flow 3 ingress: mean 25.01 Mbit/s
- Flow 1 egress: mean 54.23 Mbit/s
- Flow 2 egress: mean 34.55 Mbit/s
- Flow 3 egress: mean 24.97 Mbit/s

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

- Flow 1 95th percentile: 37.69 ms
- Flow 2 95th percentile: 46.27 ms
- Flow 3 95th percentile: 49.34 ms
Run 4: Statistics of Verus

End at: 2018-07-25 08:55:45
Local clock offset: -0.092 ms
Remote clock offset: -1.799 ms

# Below is generated by plot.py at 2018-07-25 11:27:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.81 Mbit/s
95th percentile per-packet one-way delay: 40.618 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 36.995 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 39.50 Mbit/s
95th percentile per-packet one-way delay: 42.680 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 32.67 Mbit/s
95th percentile per-packet one-way delay: 47.728 ms
Loss rate: 0.40%
Run 4: Report of Verus — Data Link

![Graph of throughput and packet delay over time for different flows, showing variability and average values.]

- **Throughput Graph**:
  - X-axis: Time (s)
  - Y-axis: Throughput (Mbps)
  - Legend:
    - Flow 1 ingress (mean 55.68 Mbps)
    - Flow 1 egress (mean 55.65 Mbps)
    - Flow 2 ingress (mean 39.52 Mbps)
    - Flow 2 egress (mean 39.50 Mbps)
    - Flow 3 ingress (mean 32.73 Mbps)
    - Flow 3 egress (mean 32.67 Mbps)

- **Packet Delay Graph**:
  - X-axis: Time (s)
  - Y-axis: Per packet one way delay (ms)
  - Legend:
    - Flow 1 (95th percentile 36.99 ms)
    - Flow 2 (95th percentile 42.68 ms)
    - Flow 3 (95th percentile 47.73 ms)
Run 5: Statistics of Verus

Start at: 2018-07-25 09:16:01
End at: 2018-07-25 09:16:31
Local clock offset: -1.589 ms
Remote clock offset: 1.052 ms

# Below is generated by plot.py at 2018-07-25 11:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.73 Mbit/s
95th percentile per-packet one-way delay: 37.964 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 35.543 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 47.14 Mbit/s
95th percentile per-packet one-way delay: 35.392 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 25.52 Mbit/s
95th percentile per-packet one-way delay: 52.287 ms
Loss rate: 0.78%
Run 5: Report of Verus — Data Link

---

**Graph 1:**

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 51.92 Mbps)
  - Flow 1 egress (mean 51.88 Mbps)
  - Flow 2 ingress (mean 47.33 Mbps)
  - Flow 2 egress (mean 47.14 Mbps)
  - Flow 3 ingress (mean 26.64 Mbps)
  - Flow 3 egress (mean 25.52 Mbps)

**Graph 2:**

- **Per packet one way delay (ms):**
  - Flow 1 (95th percentile 35.54 ms)
  - Flow 2 (95th percentile 35.39 ms)
  - Flow 3 (95th percentile 52.29 ms)

---

293
Run 6: Statistics of Verus

Start at: 2018-07-25 09:37:26
End at: 2018-07-25 09:37:56
Local clock offset: -0.871 ms
Remote clock offset: 2.374 ms

# Below is generated by plot.py at 2018-07-25 11:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.92 Mbit/s
95th percentile per-packet one-way delay: 39.099 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 49.47 Mbit/s
95th percentile per-packet one-way delay: 33.332 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 39.74 Mbit/s
95th percentile per-packet one-way delay: 41.822 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 33.15 Mbit/s
95th percentile per-packet one-way delay: 41.733 ms
Loss rate: 0.82%
Run 6: Report of Verus — Data Link

![Graph showing throughput and latency](image-url)
Run 7: Statistics of Verus

Start at: 2018-07-25 09:57:53
End at: 2018-07-25 09:58:23
Local clock offset: 1.776 ms
Remote clock offset: -4.606 ms

# Below is generated by plot.py at 2018-07-25 11:27:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.28 Mbit/s
95th percentile per-packet one-way delay: 41.005 ms
Loss rate: 0.23%

-- Flow 1:
Average throughput: 52.76 Mbit/s
95th percentile per-packet one-way delay: 37.397 ms
Loss rate: 0.14%

-- Flow 2:
Average throughput: 47.05 Mbit/s
95th percentile per-packet one-way delay: 37.320 ms
Loss rate: 0.28%

-- Flow 3:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 56.652 ms
Loss rate: 0.66%
Run 7: Report of Verus — Data Link

![Graph showing throughput and delay](image)

- Flow 1 ingress (mean 52.80 Mbit/s)
- Flow 1 egress (mean 52.76 Mbit/s)
- Flow 2 ingress (mean 47.12 Mbit/s)
- Flow 2 egress (mean 47.05 Mbit/s)
- Flow 3 ingress (mean 24.92 Mbit/s)
- Flow 3 egress (mean 24.76 Mbit/s)

- Flow 1 (95th percentile 37.40 ms)
- Flow 2 (95th percentile 37.32 ms)
- Flow 3 (95th percentile 56.65 ms)
Run 8: Statistics of Verus

End at: 2018-07-25 10:19:01
Local clock offset: 1.964 ms
Remote clock offset: -1.952 ms

# Below is generated by plot.py at 2018-07-25 11:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 41.366 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 37.192 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 38.17 Mbit/s
95th percentile per-packet one-way delay: 44.329 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 47.145 ms
Loss rate: 0.46%
Run 8: Report of Verus — Data Link

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

- Flow 1 ingress (mean 57.97 Mbit/s)
- Flow 1 egress (mean 57.89 Mbit/s)
- Flow 2 ingress (mean 38.33 Mbit/s)
- Flow 2 egress (mean 38.17 Mbit/s)
- Flow 3 ingress (mean 31.21 Mbit/s)
- Flow 3 egress (mean 31.14 Mbit/s)
Run 9: Statistics of Verus

Start at: 2018-07-25 10:39:10
End at: 2018-07-25 10:39:40
Local clock offset: -5.996 ms
Remote clock offset: -6.798 ms

# Below is generated by plot.py at 2018-07-25 11:27:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.54 Mbit/s
95th percentile per-packet one-way delay: 40.712 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 46.09 Mbit/s
95th percentile per-packet one-way delay: 39.637 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 34.84 Mbit/s
95th percentile per-packet one-way delay: 45.656 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 38.092 ms
Loss rate: 0.79%
Run 9: Report of Verus — Data Link

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

- **Flow 1 ingress** (mean 46.12 Mbit/s)
- **Flow 1 egress** (mean 46.09 Mbit/s)
- **Flow 2 ingress** (mean 34.92 Mbit/s)
- **Flow 2 egress** (mean 34.84 Mbit/s)
- **Flow 3 ingress** (mean 46.30 Mbit/s)
- **Flow 3 egress** (mean 46.06 Mbit/s)

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

- **Flow 1** (95th percentile 39.64 ms)
- **Flow 2** (95th percentile 45.66 ms)
- **Flow 3** (95th percentile 38.09 ms)
Run 10: Statistics of Verus

End at: 2018-07-25 11:00:02
Local clock offset: 2.305 ms
Remote clock offset: -3.967 ms

# Below is generated by plot.py at 2018-07-25 11:27:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.38 Mbit/s
  95th percentile per-packet one-way delay: 43.900 ms
  Loss rate: 0.32%
-- Flow 1:
  Average throughput: 59.30 Mbit/s
  95th percentile per-packet one-way delay: 39.178 ms
  Loss rate: 0.30%
-- Flow 2:
  Average throughput: 32.37 Mbit/s
  95th percentile per-packet one-way delay: 52.224 ms
  Loss rate: 0.29%
-- Flow 3:
  Average throughput: 22.68 Mbit/s
  95th percentile per-packet one-way delay: 57.011 ms
  Loss rate: 0.50%
Run 10: Report of Verus — Data Link

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

- **Flow 1 ingress** (mean 59.43 Mbit/s)
- **Flow 2 ingress** (mean 32.44 Mbit/s)
- **Flow 3 ingress** (mean 22.74 Mbit/s)
- **Flow 1 egress** (mean 59.30 Mbit/s)
- **Flow 2 egress** (mean 32.37 Mbit/s)
- **Flow 3 egress** (mean 22.68 Mbit/s)

![Graph showing packet loss over time for three flows.](image)

- **Flow 1 (95th percentile 39.18 ms)**
- **Flow 2 (95th percentile 52.22 ms)**
- **Flow 3 (95th percentile 57.01 ms)**

303
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-25 07:35:36
End at: 2018-07-25 07:36:06
Local clock offset: 2.93 ms
Remote clock offset: 17.166 ms

# Below is generated by plot.py at 2018-07-25 11:28:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 84.66 Mbit/s
  95th percentile per-packet one-way delay: 20.877 ms
  Loss rate: 1.28%
-- Flow 1:
  Average throughput: 55.35 Mbit/s
  95th percentile per-packet one-way delay: 18.509 ms
  Loss rate: 1.64%
-- Flow 2:
  Average throughput: 31.16 Mbit/s
  95th percentile per-packet one-way delay: 30.386 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 26.08 Mbit/s
  95th percentile per-packet one-way delay: 7.159 ms
  Loss rate: 0.39%
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-25 07:57:29
End at: 2018-07-25 07:57:59
Local clock offset: -2.42 ms
Remote clock offset: -5.611 ms

# Below is generated by plot.py at 2018-07-25 11:28:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.51 Mbit/s
95th percentile per-packet one-way delay: 36.717 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 62.84 Mbit/s
95th percentile per-packet one-way delay: 39.091 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 25.713 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 17.993 ms
Loss rate: 0.73%
Run 2: Report of PCC-Vivace — Data Link

[Graph showing throughput and latency over time for different flows]
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-25 08:18:25
End at: 2018-07-25 08:18:55
Local clock offset: 1.972 ms
Remote clock offset: -10.671 ms

# Below is generated by plot.py at 2018-07-25 11:28:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.81 Mbit/s
95th percentile per-packet one-way delay: 38.263 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 59.58 Mbit/s
95th percentile per-packet one-way delay: 38.262 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 34.23 Mbit/s
95th percentile per-packet one-way delay: 42.845 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 22.69 Mbit/s
95th percentile per-packet one-way delay: 20.883 ms
Loss rate: 0.38%
Run 3: Report of PCC-Vivace — Data Link

![Graph 1](image1)

- **Flow 1 ingress** (mean 60.15 Mbit/s)
- **Flow 1 egress** (mean 59.58 Mbit/s)
- **Flow 2 ingress** (mean 34.30 Mbit/s)
- **Flow 2 egress** (mean 34.23 Mbit/s)
- **Flow 3 ingress** (mean 22.70 Mbit/s)
- **Flow 3 egress** (mean 22.69 Mbit/s)

![Graph 2](image2)

- **Flow 1 (95th percentile 38.26 ms)**
- **Flow 2 (95th percentile 42.84 ms)**
- **Flow 3 (95th percentile 20.88 ms)**
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-25 08:39:00
End at: 2018-07-25 08:39:30
Local clock offset: -1.596 ms
Remote clock offset: 12.89 ms

# Below is generated by plot.py at 2018-07-25 11:28:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.54 Mbit/s
95th percentile per-packet one-way delay: 26.264 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 54.24 Mbit/s
95th percentile per-packet one-way delay: 6.679 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 31.102 ms
Loss rate: 6.34%
-- Flow 3:
Average throughput: 20.47 Mbit/s
95th percentile per-packet one-way delay: 3.118 ms
Loss rate: 0.43%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-25 09:00:17
End at: 2018-07-25 09:00:47
Local clock offset: 0.78 ms
Remote clock offset: -0.931 ms

# Below is generated by plot.py at 2018-07-25 11:28:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.52 Mbit/s
95th percentile per-packet one-way delay: 33.729 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.84 Mbit/s
95th percentile per-packet one-way delay: 39.298 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 17.58 Mbit/s
95th percentile per-packet one-way delay: 19.700 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 27.31 Mbit/s
95th percentile per-packet one-way delay: 23.202 ms
Loss rate: 0.22%
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-25 09:21:38
End at: 2018-07-25 09:22:08
Local clock offset: 1.749 ms
Remote clock offset: 2.509 ms

# Below is generated by plot.py at 2018-07-25 11:28:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.15 Mbit/s
95th percentile per-packet one-way delay: 41.183 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 53.86 Mbit/s
95th percentile per-packet one-way delay: 42.159 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 29.532 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 18.43 Mbit/s
95th percentile per-packet one-way delay: 25.831 ms
Loss rate: 0.43%
Run 6: Report of PCC-Vivace — Data Link
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-25 09:42:26
End at: 2018-07-25 09:42:56
Local clock offset: 1.376 ms
Remote clock offset: 0.477 ms

# Below is generated by plot.py at 2018-07-25 11:28:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 43.881 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 60.07 Mbit/s
95th percentile per-packet one-way delay: 40.728 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 48.885 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 22.91 Mbit/s
95th percentile per-packet one-way delay: 14.959 ms
Loss rate: 0.29%
Run 7: Report of PCC-Vivace — Data Link
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-25 10:02:58
End at: 2018-07-25 10:03:28
Local clock offset: 2.2 ms
Remote clock offset: -4.575 ms

# Below is generated by plot.py at 2018-07-25 11:28:52
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 87.40 Mbit/s
   95th percentile per-packet one-way delay: 21.656 ms
   Loss rate: 0.13%
-- Flow 1:
   Average throughput: 62.24 Mbit/s
   95th percentile per-packet one-way delay: 18.761 ms
   Loss rate: 0.05%
-- Flow 2:
   Average throughput: 29.96 Mbit/s
   95th percentile per-packet one-way delay: 38.137 ms
   Loss rate: 0.26%
-- Flow 3:
   Average throughput: 15.87 Mbit/s
   95th percentile per-packet one-way delay: 30.662 ms
   Loss rate: 0.60%
Run 8: Report of PCC-Vivace — Data Link
Run 9: Statistics of PCC-Vivace

Local clock offset: 3.389 ms
Remote clock offset: -1.605 ms

# Below is generated by plot.py at 2018-07-25 11:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.44 Mbit/s
95th percentile per-packet one-way delay: 22.932 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 20.900 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 34.91 Mbit/s
95th percentile per-packet one-way delay: 49.503 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 21.19 Mbit/s
95th percentile per-packet one-way delay: 24.684 ms
Loss rate: 0.66%
Run 9: Report of PCC-Vivace — Data Link
Run 10: Statistics of PCC-Vivace

Start at: 2018-07-25 10:44:05  
End at: 2018-07-25 10:44:35  
Local clock offset: 0.27 ms  
Remote clock offset: -1.398 ms

# Below is generated by plot.py at 2018-07-25 11:29:00  
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.20 Mbit/s
  95th percentile per-packet one-way delay: 26.906 ms
  Loss rate: 0.40%
-- Flow 1:
  Average throughput: 58.13 Mbit/s
  95th percentile per-packet one-way delay: 26.629 ms
  Loss rate: 0.37%
-- Flow 2:
  Average throughput: 22.16 Mbit/s
  95th percentile per-packet one-way delay: 31.588 ms
  Loss rate: 0.43%
-- Flow 3:
  Average throughput: 13.14 Mbit/s
  95th percentile per-packet one-way delay: 20.916 ms
  Loss rate: 0.67%
Run 10: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 58.30 Mbps/s)**
- **Flow 1 egress (mean 58.13 Mbps/s)**
- **Flow 2 ingress (mean 22.22 Mbps/s)**
- **Flow 2 egress (mean 22.16 Mbps/s)**
- **Flow 3 ingress (mean 13.20 Mbps/s)**
- **Flow 3 egress (mean 13.14 Mbps/s)**

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

- **Flow 1 (95th percentile 26.63 ms)**
- **Flow 2 (95th percentile 31.59 ms)**
- **Flow 3 (95th percentile 20.92 ms)**
Run 1: Statistics of WebRTC media

Start at: 2018-07-25 07:50:04
End at: 2018-07-25 07:50:34
Local clock offset: -2.954 ms
Remote clock offset: -2.183 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 13.313 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 13.286 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 13.360 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 13.308 ms
Loss rate: 0.63%
Run 1: Report of WebRTC media — Data Link

![Graph of WebRTC media throughput and packet delay over time.](image-url)
Run 2: Statistics of WebRTC media

Start at: 2018-07-25 08:11:01
End at: 2018-07-25 08:11:31
Local clock offset: -1.768 ms
Remote clock offset: -9.72 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 14.118 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 14.154 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 13.927 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 14.209 ms
Loss rate: 0.41%
Run 2: Report of WebRTC media — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 1.62 Mbit/s)
- Flow 1 egress (mean 1.62 Mbit/s)
- Flow 2 ingress (mean 0.93 Mbit/s)
- Flow 2 egress (mean 0.92 Mbit/s)
- Flow 3 ingress (mean 0.43 Mbit/s)
- Flow 3 egress (mean 0.43 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 14.15 ms)
- Flow 2 (95th percentile 13.93 ms)
- Flow 3 (95th percentile 14.21 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-07-25 08:31:40
End at: 2018-07-25 08:32:10
Local clock offset: -0.036 ms
Remote clock offset: -8.641 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 16.219 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 16.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 15.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 16.239 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 1.57 Mbit/s)
- Flow 1 egress (mean 1.57 Mbit/s)
- Flow 2 ingress (mean 0.98 Mbit/s)
- Flow 2 egress (mean 0.98 Mbit/s)
- Flow 3 ingress (mean 0.37 Mbit/s)
- Flow 3 egress (mean 0.37 Mbit/s)
Run 4: Statistics of WebRTC media

Start at: 2018-07-25 08:52:54
End at: 2018-07-25 08:53:24
Local clock offset: -0.131 ms
Remote clock offset: -2.635 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 14.933 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 14.817 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 14.962 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 15.202 ms
Loss rate: 0.24%
Run 4: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.65 Mbit/s)  Flow 1 egress (mean 1.65 Mbit/s)
Flow 2 ingress (mean 1.02 Mbit/s)  Flow 2 egress (mean 1.02 Mbit/s)
Flow 3 ingress (mean 0.50 Mbit/s)  Flow 3 egress (mean 0.50 Mbit/s)

Per-packet one-way delay [ms]

Time (s)

Flow 1 (95th percentile 14.82 ms)  Flow 2 (95th percentile 14.96 ms)  Flow 3 (95th percentile 15.20 ms)
Run 5: Statistics of WebRTC media

End at: 2018-07-25 09:14:13
Local clock offset: 1.075 ms
Remote clock offset: 0.443 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 2.92 Mbit/s
   95th percentile per-packet one-way delay: 15.923 ms
   Loss rate: 0.16%
   -- Flow 1:
       Average throughput: 1.63 Mbit/s
       95th percentile per-packet one-way delay: 15.906 ms
       Loss rate: 0.00%
   -- Flow 2:
       Average throughput: 0.96 Mbit/s
       95th percentile per-packet one-way delay: 15.972 ms
       Loss rate: 0.33%
   -- Flow 3:
       Average throughput: 0.34 Mbit/s
       95th percentile per-packet one-way delay: 15.754 ms
       Loss rate: 0.45%
Run 5: Report of WebRTC media — Data Link

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

Start at: 2018-07-25 09:35:10
End at: 2018-07-25 09:35:40
Local clock offset: -0.502 ms
Remote clock offset: 5.521 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 9.555 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 9.544 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 9.573 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 9.684 ms
Loss rate: 0.01%
Run 7: Statistics of WebRTC media

End at: 2018-07-25 09:56:05
Local clock offset: -0.631 ms
Remote clock offset: -4.114 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.05 Mbit/s
  95th percentile per-packet one-way delay: 12.097 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 1.60 Mbit/s
  95th percentile per-packet one-way delay: 12.059 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.99 Mbit/s
  95th percentile per-packet one-way delay: 12.084 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.48 Mbit/s
  95th percentile per-packet one-way delay: 12.264 ms
  Loss rate: 0.73%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-07-25 10:16:16
End at: 2018-07-25 10:16:46
Local clock offset: 0.069 ms
Remote clock offset: -2.141 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 12.283 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 12.328 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 12.098 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 12.351 ms
Loss rate: 0.66%
Run 8: Report of WebRTC media — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 1.63 Mbps)
  - Flow 1 egress (mean 1.64 Mbps)
  - Flow 2 ingress (mean 0.79 Mbps)
  - Flow 2 egress (mean 0.79 Mbps)
  - Flow 3 ingress (mean 0.37 Mbps)
  - Flow 3 egress (mean 0.37 Mbps)

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

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 12.33 ms)
  - Flow 2 (95th percentile 12.10 ms)
  - Flow 3 (95th percentile 12.35 ms)
Run 9: Statistics of WebRTC media

Start at: 2018-07-25 10:36:54
End at: 2018-07-25 10:37:24
Local clock offset: 0.575 ms
Remote clock offset: -2.014 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 15.246 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 15.147 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 15.348 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 15.586 ms
Loss rate: 0.56%
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

End at: 2018-07-25 10:57:47
Local clock offset: 1.829 ms
Remote clock offset: -2.145 ms

# Below is generated by plot.py at 2018-07-25 11:29:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 15.137 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 15.084 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 15.149 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 15.155 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link