Pantheon Report

Generated at 2018-07-06 01:33:30 (UTC).
Data path: GCE Sydney Ethernet (local) → GCE Tokyo Ethernet (remote).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 9250dbeec7fb57193cdff1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 37162fe9af85249a0ecacc061c93c75640ef710b5
third_party/genericCC @ d0153f8e594aa89e93b032143cedbde58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0edcbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaaab4a906ce6bb7cf3c
third_party/pantheon-tunnel @ 6f038ed31259d366f984f65b2cbe8f464b1b39
third_party/pcc @ 1af958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a8273a86b42f1bc8143ebc978f3ccff42
third_party/scream-reproduce @ f099118d1421a3131bf1f1f1964974e1da3dbb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c747f9415f19a26
third_party/verus @ d4b47f4e74c6c60a261149af2629562539f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Sydney to GCE Tokyo, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
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<th>mean loss rate (%)</th>
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<td>Indigo</td>
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<td>529.11</td>
<td>39.58</td>
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<td>210.43</td>
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<tr>
<td>QUIC Cubic</td>
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<td>SCReAM</td>
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<td>Sprout</td>
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<td>Verus</td>
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<td>PCC-Vivace</td>
<td>10</td>
<td>321.12</td>
<td>258.74</td>
<td>77.56</td>
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<tr>
<td>WebRTC media</td>
<td>10</td>
<td>2.06</td>
<td>1.32</td>
<td>0.55</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-07-05 18:26:05
End at: 2018-07-05 18:26:35
Local clock offset: -0.092 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-07-05 22:58:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.31 Mbit/s
95th percentile per-packet one-way delay: 64.046 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 211.27 Mbit/s
95th percentile per-packet one-way delay: 63.350 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 215.49 Mbit/s
95th percentile per-packet one-way delay: 64.123 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 212.26 Mbit/s
95th percentile per-packet one-way delay: 64.903 ms
Loss rate: 0.03%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2018-07-05 18:50:38
End at: 2018-07-05 18:51:08
Local clock offset: -0.103 ms
Remote clock offset: -1.387 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.34 Mbit/s
95th percentile per-packet one-way delay: 59.888 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 216.87 Mbit/s
95th percentile per-packet one-way delay: 58.778 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 212.93 Mbit/s
95th percentile per-packet one-way delay: 60.119 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 209.48 Mbit/s
95th percentile per-packet one-way delay: 60.799 ms
Loss rate: 0.01%
Run 2: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 216.92 Mbit/s)
- Flow 1 egress (mean 216.87 Mbit/s)
- Flow 2 ingress (mean 213.67 Mbit/s)
- Flow 2 egress (mean 212.93 Mbit/s)
- Flow 3 ingress (mean 209.66 Mbit/s)
- Flow 3 egress (mean 209.48 Mbit/s)

![Graph depicting per-packet one-way delay over time.](image)

- Flow 1 (95th percentile 58.78 ms)
- Flow 2 (95th percentile 60.12 ms)
- Flow 3 (95th percentile 60.80 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-07-05 19:15:42
End at: 2018-07-05 19:16:12
Local clock offset: -0.346 ms
Remote clock offset: 0.991 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 412.04 Mbit/s
95th percentile per-packet one-way delay: 69.114 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 208.33 Mbit/s
95th percentile per-packet one-way delay: 67.299 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 203.66 Mbit/s
95th percentile per-packet one-way delay: 69.491 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 204.87 Mbit/s
95th percentile per-packet one-way delay: 70.522 ms
Loss rate: 0.00%
Run 3: Report of TCP BBR — Data Link

Graph showing throughput and per-packet one-way delay over time for different flows.
Run 4: Statistics of TCP BBR

Start at: 2018-07-05 19:40:24
End at: 2018-07-05 19:40:54
Local clock offset: -0.118 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 415.34 Mbit/s
95th percentile per-packet one-way delay: 62.826 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 210.62 Mbit/s
95th percentile per-packet one-way delay: 61.847 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 207.67 Mbit/s
95th percentile per-packet one-way delay: 62.651 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 200.05 Mbit/s
95th percentile per-packet one-way delay: 64.562 ms
Loss rate: 0.03%
Run 4: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 210.67 Mbps)
- Flow 1 egress (mean 210.62 Mbps)
- Flow 2 ingress (mean 207.70 Mbps)
- Flow 2 egress (mean 207.67 Mbps)
- Flow 3 ingress (mean 200.09 Mbps)
- Flow 3 egress (mean 200.05 Mbps)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 61.85 ms)
- Flow 2 (95th percentile 62.65 ms)
- Flow 3 (95th percentile 64.56 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-07-05 20:05:15
End at: 2018-07-05 20:05:45
Local clock offset: -0.036 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 423.69 Mbit/s
95th percentile per-packet one-way delay: 63.161 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 215.77 Mbit/s
95th percentile per-packet one-way delay: 61.301 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 212.31 Mbit/s
95th percentile per-packet one-way delay: 63.400 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 199.87 Mbit/s
95th percentile per-packet one-way delay: 64.755 ms
Loss rate: 0.03%
Run 6: Statistics of TCP BBR

Start at: 2018-07-05 20:30:29
End at: 2018-07-05 20:30:59
Local clock offset: 0.013 ms
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 417.07 Mbit/s
  95th percentile per-packet one-way delay: 68.664 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 208.34 Mbit/s
  95th percentile per-packet one-way delay: 67.720 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 212.50 Mbit/s
  95th percentile per-packet one-way delay: 68.584 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 202.40 Mbit/s
  95th percentile per-packet one-way delay: 70.699 ms
  Loss rate: 0.18%
Run 7: Statistics of TCP BBR

End at: 2018-07-05 20:56:03
Local clock offset: 0.084 ms
Remote clock offset: 0.122 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 425.37 Mbit/s
  95th percentile per-packet one-way delay: 60.028 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 217.11 Mbit/s
  95th percentile per-packet one-way delay: 58.605 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 212.27 Mbit/s
  95th percentile per-packet one-way delay: 60.013 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 201.24 Mbit/s
  95th percentile per-packet one-way delay: 62.074 ms
  Loss rate: 0.02%
Run 7: Report of TCP BBR — Data Link

Throughput (Mbps):

Time (s):

Flow 1 ingress (mean 217.16 Mbps)  
Flow 1 egress (mean 217.11 Mbps)  
Flow 2 ingress (mean 212.27 Mbps)  
Flow 2 egress (mean 212.27 Mbps)  
Flow 3 ingress (mean 201.23 Mbps)  
Flow 3 egress (mean 201.24 Mbps)

Per-packet one way delay (ms):

Flow 1 (95th percentile 58.60 ms)  
Flow 2 (95th percentile 60.01 ms)  
Flow 3 (95th percentile 62.07 ms)
Run 8: Statistics of TCP BBR

End at: 2018-07-05 21:20:58
Local clock offset: 0.034 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-07-05 22:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.89 Mbit/s
95th percentile per-packet one-way delay: 60.159 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 219.40 Mbit/s
95th percentile per-packet one-way delay: 58.482 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 210.28 Mbit/s
95th percentile per-packet one-way delay: 60.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 202.66 Mbit/s
95th percentile per-packet one-way delay: 63.884 ms
Loss rate: 0.01%
Run 8: Report of TCP BBR — Data Link
Run 9: Statistics of TCP BBR

Start at: 2018-07-05 21:45:07
End at: 2018-07-05 21:45:37
Local clock offset: -0.03 ms
Remote clock offset: 0.248 ms

# Below is generated by plot.py at 2018-07-05 23:04:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.76 Mbit/s
95th percentile per-packet one-way delay: 67.383 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 209.95 Mbit/s
95th percentile per-packet one-way delay: 66.278 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 207.29 Mbit/s
95th percentile per-packet one-way delay: 67.211 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 191.97 Mbit/s
95th percentile per-packet one-way delay: 69.618 ms
Loss rate: 0.02%
Run 9: Report of TCP BBR — Data Link

![Graph showing network throughput and packet delay over time.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 209.99 Mbps)
  - Flow 1 egress (mean 209.95 Mbps)
  - Flow 2 ingress (mean 207.32 Mbps)
  - Flow 2 egress (mean 207.29 Mbps)
  - Flow 3 ingress (mean 190.07 Mbps)
  - Flow 3 egress (mean 191.97 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 66.28 ms)
  - Flow 2 (95th percentile 67.21 ms)
  - Flow 3 (95th percentile 69.62 ms)
Run 10: Statistics of TCP BBR

Start at: 2018-07-05 22:10:17
End at: 2018-07-05 22:10:47
Local clock offset: -0.135 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2018-07-05 23:05:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.10 Mbit/s
95th percentile per-packet one-way delay: 59.215 ms
Loss rate: 0.03%

-- Flow 1:
Average throughput: 217.85 Mbit/s
95th percentile per-packet one-way delay: 58.787 ms
Loss rate: 0.02%

-- Flow 2:
Average throughput: 217.37 Mbit/s
95th percentile per-packet one-way delay: 59.401 ms
Loss rate: 0.03%

-- Flow 3:
Average throughput: 202.63 Mbit/s
95th percentile per-packet one-way delay: 60.182 ms
Loss rate: 0.06%
Run 10: Report of TCP BBR — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 ingress (mean 217.88 Mbps)
- Flow 1 egress (mean 217.85 Mbps)
- Flow 2 ingress (mean 217.41 Mbps)
- Flow 2 egress (mean 217.37 Mbps)
- Flow 3 ingress (mean 202.76 Mbps)
- Flow 3 egress (mean 202.63 Mbps)

Graph 2: Per packet one-way delay (ms)
- Flow 1 (95th percentile 58.79 ms)
- Flow 2 (95th percentile 59.40 ms)
- Flow 3 (95th percentile 60.18 ms)
Run 1: Statistics of Copa

Start at: 2018-07-05 18:29:05
End at: 2018-07-05 18:29:35
Local clock offset: -0.347 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-07-05 23:05:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.71 Mbit/s
95th percentile per-packet one-way delay: 53.499 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 88.72 Mbit/s
95th percentile per-packet one-way delay: 53.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 111.25 Mbit/s
95th percentile per-packet one-way delay: 54.046 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 73.70 Mbit/s
95th percentile per-packet one-way delay: 53.704 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-07-05 18:53:36
End at: 2018-07-05 18:54:06
Local clock offset: -0.05 ms
Remote clock offset: 1.066 ms

# Below is generated by plot.py at 2018-07-05 23:05:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.12 Mbit/s
95th percentile per-packet one-way delay: 56.059 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.94 Mbit/s
95th percentile per-packet one-way delay: 54.830 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.82 Mbit/s
95th percentile per-packet one-way delay: 57.773 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.63 Mbit/s
95th percentile per-packet one-way delay: 56.997 ms
Loss rate: 0.00%
Run 3: Statistics of Copa

Start at: 2018-07-05 19:18:43  
End at: 2018-07-05 19:19:13  
Local clock offset: 0.04 ms  
Remote clock offset: -1.431 ms

# Below is generated by plot.py at 2018-07-05 23:07:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 282.75 Mbit/s  
95th percentile per-packet one-way delay: 58.808 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 155.79 Mbit/s  
95th percentile per-packet one-way delay: 54.401 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 164.18 Mbit/s  
95th percentile per-packet one-way delay: 66.388 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 53.26 Mbit/s  
95th percentile per-packet one-way delay: 51.736 ms  
Loss rate: 0.02%
Run 3: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 155.79 Mbit/s)
- Flow 1 egress (mean 155.79 Mbit/s)
- Flow 2 ingress (mean 164.20 Mbit/s)
- Flow 2 egress (mean 164.18 Mbit/s)
- Flow 3 ingress (mean 53.29 Mbit/s)
- Flow 3 egress (mean 53.26 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 54.40 ms)
- Flow 2 (95th percentile 66.39 ms)
- Flow 3 (95th percentile 51.74 ms)
Run 4: Statistics of Copa

End at: 2018-07-05 19:43:58
Local clock offset: 0.041 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2018-07-05 23:07:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.62 Mbit/s
95th percentile per-packet one-way delay: 58.320 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.16 Mbit/s
95th percentile per-packet one-way delay: 57.310 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.85 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 127.33 Mbit/s
95th percentile per-packet one-way delay: 67.171 ms
Loss rate: 0.00%
Run 4: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 155.14 Mbit/s)
- Flow 1 egress (mean 155.16 Mbit/s)
- Flow 2 ingress (mean 55.85 Mbit/s)
- Flow 2 egress (mean 55.85 Mbit/s)
- Flow 3 ingress (mean 127.32 Mbit/s)
- Flow 3 egress (mean 127.33 Mbit/s)
Run 5: Statistics of Copa

Start at: 2018-07-05 20:08:17
End at: 2018-07-05 20:08:47
Local clock offset: -0.036 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2018-07-05 23:07:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.41 Mbit/s
95th percentile per-packet one-way delay: 61.300 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.06 Mbit/s
95th percentile per-packet one-way delay: 53.007 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.38 Mbit/s
95th percentile per-packet one-way delay: 53.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 73.097 ms
Loss rate: 0.00%
Run 6: Statistics of Copa

Start at: 2018-07-05 20:33:31
End at: 2018-07-05 20:34:01
Local clock offset: -0.047 ms
Remote clock offset: 1.425 ms

# Below is generated by plot.py at 2018-07-05 23:08:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.40 Mbit/s
95th percentile per-packet one-way delay: 56.484 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 182.39 Mbit/s
95th percentile per-packet one-way delay: 55.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 160.87 Mbit/s
95th percentile per-packet one-way delay: 58.332 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.73 Mbit/s
95th percentile per-packet one-way delay: 55.173 ms
Loss rate: 0.02%
Run 6: Report of Copa — Data Link

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

- Flow 1 ingress (mean 182.37 Mbit/s)
- Flow 1 egress (mean 182.39 Mbit/s)
- Flow 2 ingress (mean 160.87 Mbit/s)
- Flow 2 egress (mean 160.87 Mbit/s)
- Flow 3 ingress (mean 56.73 Mbit/s)
- Flow 3 egress (mean 56.73 Mbit/s)
Run 7: Statistics of Copa

Start at: 2018-07-05 20:58:40
End at: 2018-07-05 20:59:10
Local clock offset: -0.052 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-07-05 23:09:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.58 Mbit/s
95th percentile per-packet one-way delay: 61.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.48 Mbit/s
95th percentile per-packet one-way delay: 53.387 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 168.79 Mbit/s
95th percentile per-packet one-way delay: 61.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 113.37 Mbit/s
95th percentile per-packet one-way delay: 81.092 ms
Loss rate: 0.00%
Run 7: Report of Copa — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 70.47 Mbps)
- Flow 1 egress (mean 70.48 Mbps)
- Flow 2 ingress (mean 168.79 Mbps)
- Flow 2 egress (mean 168.79 Mbps)
- Flow 3 ingress (mean 113.37 Mbps)
- Flow 3 egress (mean 113.37 Mbps)

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

- Flow 1 (95th percentile 53.39 ms)
- Flow 2 (95th percentile 61.69 ms)
- Flow 3 (95th percentile 81.09 ms)
Run 8: Statistics of Copa

Local clock offset: 0.122 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-07-05 23:10:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.14 Mbit/s
95th percentile per-packet one-way delay: 61.327 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.00 Mbit/s
95th percentile per-packet one-way delay: 55.436 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.78 Mbit/s
95th percentile per-packet one-way delay: 56.346 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 262.47 Mbit/s
95th percentile per-packet one-way delay: 63.565 ms
Loss rate: 0.00%
Run 8: Report of Copa — Data Link

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

- Flow 1 ingress (mean 69.00 Mbit/s)
- Flow 1 egress (mean 69.00 Mbit/s)
- Flow 2 ingress (mean 68.77 Mbit/s)
- Flow 2 egress (mean 68.78 Mbit/s)
- Flow 3 ingress (mean 262.46 Mbit/s)
- Flow 3 egress (mean 262.47 Mbit/s)

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

- Flow 1 (95th percentile 55.44 ms)
- Flow 2 (95th percentile 56.35 ms)
- Flow 3 (95th percentile 63.56 ms)
Run 9: Statistics of Copa

Local clock offset: 0.119 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.57 Mbit/s
95th percentile per-packet one-way delay: 55.413 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 192.70 Mbit/s
95th percentile per-packet one-way delay: 55.078 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 135.88 Mbit/s
95th percentile per-packet one-way delay: 55.460 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.12 Mbit/s
95th percentile per-packet one-way delay: 58.093 ms
Loss rate: 0.02%
Run 9: Report of Copa — Data Link

![Graph of network throughput over time]

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

Legend:
- Flow 1 ingress (mean 192.74 Mbit/s)
- Flow 1 egress (mean 192.70 Mbit/s)
- Flow 2 ingress (mean 135.88 Mbit/s)
- Flow 2 egress (mean 135.88 Mbit/s)
- Flow 3 ingress (mean 74.19 Mbit/s)
- Flow 3 egress (mean 74.12 Mbit/s)
Run 10: Statistics of Copa

Local clock offset: 0.048 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.58 Mbit/s
95th percentile per-packet one-way delay: 53.479 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.06 Mbit/s
95th percentile per-packet one-way delay: 52.941 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 97.63 Mbit/s
95th percentile per-packet one-way delay: 56.763 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 53.424 ms
Loss rate: 0.00%
Run 10: Report of Copa — Data Link

![Graph of data link throughput and per-packet delay over time for Flow 1, Flow 2, and Flow 3.]
Run 1: Statistics of TCP Cubic

Start at: 2018-07-05 18:35:06
End at: 2018-07-05 18:35:36
Local clock offset: 0.107 ms
Remote clock offset: 0.089 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.96 Mbit/s
95th percentile per-packet one-way delay: 57.022 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 164.77 Mbit/s
95th percentile per-packet one-way delay: 56.309 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.97 Mbit/s
95th percentile per-packet one-way delay: 57.445 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.16 Mbit/s
95th percentile per-packet one-way delay: 56.780 ms
Loss rate: 0.12%
Run 1: Report of TCP Cubic — Data Link

![Graph 1: Throughput over time with different flows.]

- Flow 1 ingress (mean 164.79 Mbit/s)
- Flow 1 egress (mean 164.77 Mbit/s)
- Flow 2 ingress (mean 147.97 Mbit/s)
- Flow 2 egress (mean 147.97 Mbit/s)
- Flow 3 ingress (mean 5.17 Mbit/s)
- Flow 3 egress (mean 5.16 Mbit/s)

![Graph 2: Per packet one way delay over time with different flows.]

- Flow 1 (95th percentile 56.31 ms)
- Flow 2 (95th percentile 57.45 ms)
- Flow 3 (95th percentile 56.78 ms)
Run 2: Statistics of TCP Cubic

Start at: 2018-07-05 18:59:37
End at: 2018-07-05 19:00:07
Local clock offset: -0.079 ms
Remote clock offset: 0.119 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.68 Mbit/s
95th percentile per-packet one-way delay: 53.243 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 159.87 Mbit/s
95th percentile per-packet one-way delay: 53.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 109.63 Mbit/s
95th percentile per-packet one-way delay: 52.649 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 116.80 Mbit/s
95th percentile per-packet one-way delay: 53.860 ms
Loss rate: 0.00%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

End at: 2018-07-05 19:25:25
Local clock offset: -0.154 ms
Remote clock offset: -1.326 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.98 Mbit/s
95th percentile per-packet one-way delay: 53.621 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 154.26 Mbit/s
95th percentile per-packet one-way delay: 53.458 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 168.54 Mbit/s
95th percentile per-packet one-way delay: 53.508 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 112.44 Mbit/s
95th percentile per-packet one-way delay: 54.210 ms
Loss rate: 0.00%
Run 3: Report of TCP Cubic — Data Link

![Graph showing throughput over time for different flows.]
Run 4: Statistics of TCP Cubic

End at: 2018-07-05 19:50:02
Local clock offset: 0.212 ms
Remote clock offset: -1.287 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 344.89 Mbit/s
  95th percentile per-packet one-way delay: 53.732 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 190.85 Mbit/s
  95th percentile per-packet one-way delay: 53.770 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 160.14 Mbit/s
  95th percentile per-packet one-way delay: 53.366 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 142.68 Mbit/s
  95th percentile per-packet one-way delay: 54.233 ms
  Loss rate: 0.00%
Run 4: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 190.83 Mbit/s)
- Flow 1 egress (mean 190.85 Mbit/s)
- Flow 2 ingress (mean 160.11 Mbit/s)
- Flow 2 egress (mean 160.16 Mbit/s)
- Flow 3 ingress (mean 142.67 Mbit/s)
- Flow 3 egress (mean 142.68 Mbit/s)

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

- Flow 1 (95th percentile 53.77 ms)
- Flow 2 (95th percentile 53.37 ms)
- Flow 3 (95th percentile 54.23 ms)
Run 5: Statistics of TCP Cubic

Start at: 2018-07-05 20:14:10
End at: 2018-07-05 20:14:40
Local clock offset: 0.094 ms
Remote clock offset: -0.226 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.63 Mbit/s
95th percentile per-packet one-way delay: 55.095 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 164.38 Mbit/s
95th percentile per-packet one-way delay: 55.546 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.36 Mbit/s
95th percentile per-packet one-way delay: 52.748 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 105.52 Mbit/s
95th percentile per-packet one-way delay: 52.915 ms
Loss rate: 0.00%
Run 6: Statistics of TCP Cubic

End at: 2018-07-05 20:40:11
Local clock offset: -0.103 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2018-07-05 23:15:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 212.17 Mbit/s
  95th percentile per-packet one-way delay: 54.126 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 141.66 Mbit/s
  95th percentile per-packet one-way delay: 54.441 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 51.64 Mbit/s
  95th percentile per-packet one-way delay: 52.781 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 109.11 Mbit/s
  95th percentile per-packet one-way delay: 53.647 ms
  Loss rate: 0.00%
Run 6: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 141.66 Mbit/s)
- Flow 1 egress (mean 141.66 Mbit/s)
- Flow 2 ingress (mean 51.64 Mbit/s)
- Flow 2 egress (mean 51.64 Mbit/s)
- Flow 3 ingress (mean 108.76 Mbit/s)
- Flow 3 egress (mean 109.11 Mbit/s)

![Graph 2: Per-packet One-Way Delay](image)

- Flow 1 (95th percentile 54.44 ms)
- Flow 2 (95th percentile 52.78 ms)
- Flow 3 (95th percentile 53.65 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-07-05 21:04:35
End at: 2018-07-05 21:05:05
Local clock offset: -0.247 ms
Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2018-07-05 23:15:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.42 Mbit/s
95th percentile per-packet one-way delay: 52.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 122.95 Mbit/s
95th percentile per-packet one-way delay: 52.537 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 150.48 Mbit/s
95th percentile per-packet one-way delay: 51.804 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 136.17 Mbit/s
95th percentile per-packet one-way delay: 52.884 ms
Loss rate: 0.00%
Run 7: Report of TCP Cubic — Data Link

![Graph 1: Throughput vs. Time](#)
- Blue dashed line: Flow 1 ingress (mean 122.95 Mbit/s)
- Blue solid line: Flow 1 egress (mean 122.95 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 150.48 Mbit/s)
- Green solid line: Flow 2 egress (mean 150.48 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 136.12 Mbit/s)
- Red solid line: Flow 3 egress (mean 136.17 Mbit/s)

![Graph 2: Per-packet end-to-end delay vs. Time](#)
- Blue dots: Flow 1 (95th percentile 52.54 ms)
- Green dots: Flow 2 (95th percentile 51.80 ms)
- Red dots: Flow 3 (95th percentile 52.88 ms)
Run 8: Statistics of TCP Cubic

End at: 2018-07-05 21:29:57
Local clock offset: 0.107 ms
Remote clock offset: 1.287 ms

# Below is generated by plot.py at 2018-07-05 23:15:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 269.64 Mbit/s
  95th percentile per-packet one-way delay: 53.494 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 159.87 Mbit/s
  95th percentile per-packet one-way delay: 53.603 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 109.19 Mbit/s
  95th percentile per-packet one-way delay: 53.018 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 111.53 Mbit/s
  95th percentile per-packet one-way delay: 53.887 ms
  Loss rate: 0.00%
Run 8: Report of TCP Cubic — Data Link

![Graph showing throughput and packet delay over time for three flows, with labels for Flow 1, Flow 2, and Flow 3.]
Run 9: Statistics of TCP Cubic

Start at: 2018-07-05 21:54:17
End at: 2018-07-05 21:54:47
Local clock offset: -0.032 ms
Remote clock offset: 1.24 ms

# Below is generated by plot.py at 2018-07-05 23:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.52 Mbit/s
95th percentile per-packet one-way delay: 58.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 165.34 Mbit/s
95th percentile per-packet one-way delay: 57.933 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 150.13 Mbit/s
95th percentile per-packet one-way delay: 58.286 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 130.35 Mbit/s
95th percentile per-packet one-way delay: 57.759 ms
Loss rate: 0.00%
Run 9: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 165.35 Mbit/s)**
- **Flow 1 egress (mean 165.34 Mbit/s)**
- **Flow 2 ingress (mean 150.14 Mbit/s)**
- **Flow 2 egress (mean 150.13 Mbit/s)**
- **Flow 3 ingress (mean 130.36 Mbit/s)**
- **Flow 3 egress (mean 130.35 Mbit/s)**

![Graph showing per-packet one-way delay over time for different flows with 95th percentiles labeled.](image)

- **Flow 1 (95th percentile 57.93 ms)**
- **Flow 2 (95th percentile 58.29 ms)**
- **Flow 3 (95th percentile 57.76 ms)**
Run 10: Statistics of TCP Cubic

End at: 2018-07-05 22:19:59
Local clock offset: -0.02 ms
Remote clock offset: 0.208 ms

# Below is generated by plot.py at 2018-07-05 23:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.02 Mbit/s
95th percentile per-packet one-way delay: 53.696 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 158.60 Mbit/s
95th percentile per-packet one-way delay: 54.084 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.21 Mbit/s
95th percentile per-packet one-way delay: 53.064 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 51.415 ms
Loss rate: 0.11%
Run 10: Report of TCP Cubic — Data Link

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

Legend:
- Flow 1 ingress (mean 158.60 Mbit/s)
- Flow 1 egress (mean 158.60 Mbit/s)
- Flow 2 ingress (mean 142.19 Mbit/s)
- Flow 2 egress (mean 142.21 Mbit/s)
- Flow 3 ingress (mean 5.38 Mbit/s)
- Flow 3 egress (mean 5.38 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 54.08 ms)
- Flow 2 (95th percentile 53.06 ms)
- Flow 3 (95th percentile 51.41 ms)
Run 1: Statistics of FillP

Start at: 2018-07-05 18:32:59
End at: 2018-07-05 18:33:29
Local clock offset: -0.268 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2018-07-05 23:44:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1453.92 Mbit/s
95th percentile per-packet one-way delay: 177.503 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 764.58 Mbit/s
95th percentile per-packet one-way delay: 195.773 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 722.52 Mbit/s
95th percentile per-packet one-way delay: 95.938 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 625.47 Mbit/s
95th percentile per-packet one-way delay: 64.468 ms
Loss rate: 0.02%
Run 1: Report of FillP — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 785.22 Mbps)
  - Flow 1 egress (mean 764.38 Mbps)
  - Flow 2 ingress (mean 724.43 Mbps)
  - Flow 2 egress (mean 722.52 Mbps)
  - Flow 3 ingress (mean 625.65 Mbps)
  - Flow 3 egress (mean 625.47 Mbps)

- **One-way delay (ms)**
  - Flow 1 (95th percentile 195.77 ms)
  - Flow 2 (95th percentile 95.94 ms)
  - Flow 3 (95th percentile 64.47 ms)
Run 2: Statistics of FillP

Start at: 2018-07-05 18:57:33
End at: 2018-07-05 18:58:03
Local clock offset: -0.225 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-07-05 23:44:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1377.41 Mbit/s
95th percentile per-packet one-way delay: 191.619 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 726.44 Mbit/s
95th percentile per-packet one-way delay: 165.185 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 674.42 Mbit/s
95th percentile per-packet one-way delay: 231.976 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 607.75 Mbit/s
95th percentile per-packet one-way delay: 56.990 ms
Loss rate: 0.00%
Run 2: Report of FillP — Data Link

[Graph 1] Throughput (Mbps/s) vs. Time (s)
- Blue dashed line: Flow 1 ingress (mean 728.18 Mbps/s)
- Green dashed line: Flow 1 egress (mean 726.44 Mbps/s)
- Blue solid line: Flow 2 ingress (mean 676.09 Mbps/s)
- Green solid line: Flow 2 egress (mean 674.42 Mbps/s)
- Red dashed line: Flow 3 ingress (mean 607.97 Mbps/s)
- Red solid line: Flow 3 egress (mean 607.75 Mbps/s)

[Graph 2] Per-packet one-way delay (ms) vs. Time (s)
- Blue line: Flow 1 (95th percentile 165.19 ms)
- Green line: Flow 2 (95th percentile 231.98 ms)
- Red line: Flow 3 (95th percentile 56.99 ms)
Run 3: Statistics of FillP

End at: 2018-07-05 19:23:17
Local clock offset: -0.048 ms
Remote clock offset: 1.236 ms

# Below is generated by plot.py at 2018-07-05 23:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1443.64 Mbit/s
95th percentile per-packet one-way delay: 126.612 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 769.32 Mbit/s
95th percentile per-packet one-way delay: 148.254 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 717.07 Mbit/s
95th percentile per-packet one-way delay: 114.598 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 592.20 Mbit/s
95th percentile per-packet one-way delay: 60.567 ms
Loss rate: 0.00%
Run 3: Report of FillP — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 776.17 Mbps) — Flow 1 egress (mean 769.32 Mbps)
Flow 2 ingress (mean 721.08 Mbps) — Flow 2 egress (mean 717.07 Mbps)
Flow 3 ingress (mean 592.55 Mbps) — Flow 3 egress (mean 592.20 Mbps)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 148.25 ms) — Flow 2 (95th percentile 114.60 ms) — Flow 3 (95th percentile 60.57 ms)
Run 4: Statistics of FillP

Start at: 2018-07-05 19:47:25
End at: 2018-07-05 19:47:55
Local clock offset: 0.006 ms
Remote clock offset: 0.174 ms

# Below is generated by plot.py at 2018-07-05 23:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1423.47 Mbit/s
95th percentile per-packet one-way delay: 205.508 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 734.96 Mbit/s
95th percentile per-packet one-way delay: 233.272 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 727.53 Mbit/s
95th percentile per-packet one-way delay: 113.126 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 616.87 Mbit/s
95th percentile per-packet one-way delay: 70.671 ms
Loss rate: 0.00%
Run 4: Report of FillP — Data Link

1. Throughput (Mbps):
   - Flow 1 Ingress (mean 740.48 Mbps)
   - Flow 1 Egress (mean 734.96 Mbps)
   - Flow 2 Ingress (mean 732.53 Mbps)
   - Flow 2 Egress (mean 727.53 Mbps)
   - Flow 3 Ingress (mean 616.86 Mbps)
   - Flow 3 Egress (mean 616.87 Mbps)

2. Per-packet one-way delay (ms):
   - Flow 1 (95th percentile 233.27 ms)
   - Flow 2 (95th percentile 113.13 ms)
   - Flow 3 (95th percentile 70.67 ms)
Run 5: Statistics of FillP

Start at: 2018-07-05 20:12:04
End at: 2018-07-05 20:12:34
Local clock offset: -0.091 ms
Remote clock offset: 0.186 ms

# Below is generated by plot.py at 2018-07-05 23:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1369.84 Mbit/s
95th percentile per-packet one-way delay: 184.833 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 739.47 Mbit/s
95th percentile per-packet one-way delay: 206.476 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 657.88 Mbit/s
95th percentile per-packet one-way delay: 175.190 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 579.12 Mbit/s
95th percentile per-packet one-way delay: 54.235 ms
Loss rate: 0.00%
Run 5: Report of FillP — Data Link

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

- **Flow 1 Ingress** (mean 749.26 Mb/s) • **Flow 1 Egress** (mean 739.47 Mb/s)
- **Flow 2 Ingress** (mean 665.43 Mb/s) • **Flow 2 Egress** (mean 657.88 Mb/s)
- **Flow 3 Ingress** (mean 579.10 Mb/s) • **Flow 3 Egress** (mean 579.12 Mb/s)

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

- **Flow 1** (95th percentile: 206.48 ms) • **Flow 2** (95th percentile: 175.19 ms) • **Flow 3** (95th percentile: 54.23 ms)
Run 6: Statistics of FillP

Start at: 2018-07-05 20:37:36
End at: 2018-07-05 20:38:06
Local clock offset: -0.214 ms
Remote clock offset: 0.133 ms

# Below is generated by plot.py at 2018-07-05 23:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1364.25 Mbit/s
95th percentile per-packet one-way delay: 126.040 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 717.71 Mbit/s
95th percentile per-packet one-way delay: 131.456 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 688.72 Mbit/s
95th percentile per-packet one-way delay: 120.178 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 578.95 Mbit/s
95th percentile per-packet one-way delay: 59.745 ms
Loss rate: 0.00%
Run 6: Report of FillP — Data Link

**Throughput (Mb/s):**
- Flow 1 Ingress (mean 734.22 Mb/s)
- Flow 1 Egress (mean 717.71 Mb/s)
- Flow 2 Ingress (mean 703.47 Mb/s)
- Flow 2 Egress (mean 688.72 Mb/s)
- Flow 3 Ingress (mean 578.92 Mb/s)
- Flow 3 Egress (mean 578.95 Mb/s)

**Round-trip one-way delay (ms):**
- Flow 1 (95th percentile 131.46 ms)
- Flow 2 (95th percentile 120.18 ms)
- Flow 3 (95th percentile 59.74 ms)
Run 7: Statistics of FillP

Start at: 2018-07-05 21:02:37
End at: 2018-07-05 21:03:07
Local clock offset: 0.075 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-07-05 23:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1203.53 Mbit/s
95th percentile per-packet one-way delay: 192.018 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 658.93 Mbit/s
95th percentile per-packet one-way delay: 193.294 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 492.30 Mbit/s
95th percentile per-packet one-way delay: 194.138 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 656.36 Mbit/s
95th percentile per-packet one-way delay: 147.281 ms
Loss rate: 0.02%
Run 7: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 659.08 Mbps)
- Flow 1 Egress (mean 658.93 Mbps)
- Flow 2 Ingress (mean 490.75 Mbps)
- Flow 2 Egress (mean 492.30 Mbps)
- Flow 3 Ingress (mean 656.43 Mbps)
- Flow 3 Egress (mean 656.36 Mbps)

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

- Flow 1 (95th percentile 193.29 ms)
- Flow 2 (95th percentile 194.14 ms)
- Flow 3 (95th percentile 147.28 ms)
Run 8: Statistics of FillP

End at: 2018-07-05 21:27:52
Local clock offset: 0.144 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-07-05 23:46:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1336.28 Mbit/s
95th percentile per-packet one-way delay: 235.719 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 737.83 Mbit/s
95th percentile per-packet one-way delay: 195.198 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 708.00 Mbit/s
95th percentile per-packet one-way delay: 271.280 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 390.18 Mbit/s
95th percentile per-packet one-way delay: 222.889 ms
Loss rate: 2.50%
Run 8: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 746.88 Mbit/s)
- Flow 1 Egress (mean 737.83 Mbit/s)
- Flow 2 Ingress (mean 721.53 Mbit/s)
- Flow 2 Egress (mean 708.00 Mbit/s)
- Flow 3 Ingress (mean 401.50 Mbit/s)
- Flow 3 Egress (mean 390.18 Mbit/s)

![Graph showing 95th percentile delay for different flows.]

- Flow 1 (95th percentile 195.20 ms)
- Flow 2 (95th percentile 271.28 ms)
- Flow 3 (95th percentile 222.89 ms)
Run 9: Statistics of FillP

Start at: 2018-07-05 21:52:12
End at: 2018-07-05 21:52:42
Local clock offset: -0.071 ms
Remote clock offset: -1.334 ms

# Below is generated by plot.py at 2018-07-06 00:11:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1403.50 Mbit/s
95th percentile per-packet one-way delay: 149.845 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 734.87 Mbit/s
95th percentile per-packet one-way delay: 125.634 ms
Loss rate: 2.02%
-- Flow 2:
Average throughput: 704.83 Mbit/s
95th percentile per-packet one-way delay: 175.499 ms
Loss rate: 2.28%
-- Flow 3:
Average throughput: 600.80 Mbit/s
95th percentile per-packet one-way delay: 120.610 ms
Loss rate: 0.00%
Run 9: Report of FillP — Data Link

![Throughput and Delay Graphs](image)
Run 10: Statistics of FillP

End at: 2018-07-05 22:17:53
Local clock offset: -0.107 ms
Remote clock offset: 0.078 ms

# Below is generated by plot.py at 2018-07-06 00:11:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1402.84 Mbit/s
95th percentile per-packet one-way delay: 199.569 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 747.18 Mbit/s
95th percentile per-packet one-way delay: 208.935 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 688.33 Mbit/s
95th percentile per-packet one-way delay: 156.472 ms
Loss rate: 2.65%
-- Flow 3:
Average throughput: 596.86 Mbit/s
95th percentile per-packet one-way delay: 135.202 ms
Loss rate: 0.94%
Run 10: Report of FillIP — Data Link
Run 1: Statistics of FillP-Sheep

End at: 2018-07-05 18:39:43
Local clock offset: -0.049 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2018-07-06 00:11:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 964.06 Mbit/s
  95th percentile per-packet one-way delay: 234.772 ms
  Loss rate: 3.88%
-- Flow 1:
  Average throughput: 340.43 Mbit/s
  95th percentile per-packet one-way delay: 264.594 ms
  Loss rate: 4.46%
-- Flow 2:
  Average throughput: 673.73 Mbit/s
  95th percentile per-packet one-way delay: 180.307 ms
  Loss rate: 4.61%
-- Flow 3:
  Average throughput: 522.04 Mbit/s
  95th percentile per-packet one-way delay: 193.961 ms
  Loss rate: 0.74%
Run 1: Report of FillP-Sheep — Data Link

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**Throughput (Mbps)**

- Flow 1 ingress (mean 356.43 Mbps)
- Flow 1 egress (mean 340.43 Mbps)
- Flow 2 ingress (mean 706.30 Mbps)
- Flow 2 egress (mean 673.73 Mbps)
- Flow 3 ingress (mean 525.81 Mbps)
- Flow 3 egress (mean 522.04 Mbps)

---

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

- Flow 1 (95th percentile 264.59 ms)
- Flow 2 (95th percentile 180.31 ms)
- Flow 3 (95th percentile 193.96 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-05 19:03:44  
End at: 2018-07-05 19:04:14  
Local clock offset: -0.111 ms  
Remote clock offset: -0.099 ms  

# Below is generated by plot.py at 2018-07-06 00:11:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1296.24 Mbit/s  
95th percentile per-packet one-way delay: 183.681 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 730.06 Mbit/s  
95th percentile per-packet one-way delay: 199.767 ms  
Loss rate: 0.51%  
-- Flow 2:  
Average throughput: 592.13 Mbit/s  
95th percentile per-packet one-way delay: 134.174 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 520.04 Mbit/s  
95th percentile per-packet one-way delay: 58.284 ms  
Loss rate: 0.00%
Run 2: Report of FillP-Sheep — Data Link

![Graphs showing network performance metrics over time with legend explaining different lines and markers representing flow ingress and egress throughputs and delays.]

Legend:
- Flow 1 ingress (mean 733.88 Mbit/s) vs Flow 1 egress (mean 730.06 Mbit/s)
- Flow 2 ingress (mean 592.18 Mbit/s) vs Flow 2 egress (mean 592.13 Mbit/s)
- Flow 3 ingress (mean 520.17 Mbit/s) vs Flow 3 egress (mean 520.04 Mbit/s)

Legend for delay:
- Flow 1 (95th percentile 199.77 ms)
- Flow 2 (95th percentile 134.17 ms)
- Flow 3 (95th percentile 58.28 ms)
Run 3: Statistics of FillP-Sheep

End at: 2018-07-05 19:29:28
Local clock offset: -0.078 ms
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2018-07-06 00:11:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 974.02 Mbit/s
95th percentile per-packet one-way delay: 204.979 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 348.54 Mbit/s
95th percentile per-packet one-way delay: 205.608 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 646.18 Mbit/s
95th percentile per-packet one-way delay: 202.867 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 589.37 Mbit/s
95th percentile per-packet one-way delay: 217.682 ms
Loss rate: 0.08%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-05 19:53:51
End at: 2018-07-05 19:54:21
Local clock offset: 0.052 ms
Remote clock offset: -0.211 ms

# Below is generated by plot.py at 2018-07-06 00:11:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1008.91 Mbit/s
95th percentile per-packet one-way delay: 201.116 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 329.64 Mbit/s
95th percentile per-packet one-way delay: 224.187 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 698.99 Mbit/s
95th percentile per-packet one-way delay: 200.124 ms
Loss rate: 3.62%
-- Flow 3:
Average throughput: 647.60 Mbit/s
95th percentile per-packet one-way delay: 124.047 ms
Loss rate: 1.22%
Run 4: Report of FillP-Sheep — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 351.76 Mbps)
  - Flow 1 Egress (mean 329.64 Mbps)
  - Flow 2 Ingress (mean 725.25 Mbps)
  - Flow 2 Egress (mean 698.99 Mbps)
  - Flow 3 Ingress (mean 655.62 Mbps)
  - Flow 3 Egress (mean 647.60 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 224.19 ms)
  - Flow 2 (95th percentile 200.12 ms)
  - Flow 3 (95th percentile 124.05 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-05 20:18:24
End at: 2018-07-05 20:18:54
Local clock offset: 0.089 ms
Remote clock offset: 0.187 ms

# Below is generated by plot.py at 2018-07-06 00:11:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1251.82 Mbit/s
95th percentile per-packet one-way delay: 191.753 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 680.80 Mbit/s
95th percentile per-packet one-way delay: 210.530 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 620.27 Mbit/s
95th percentile per-packet one-way delay: 95.600 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 477.90 Mbit/s
95th percentile per-packet one-way delay: 71.546 ms
Loss rate: 0.00%
Run 5: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 690.97 Mbit/s)
- Flow 1 egress (mean 680.80 Mbit/s)
- Flow 2 ingress (mean 620.27 Mbit/s)
- Flow 2 egress (mean 620.27 Mbit/s)
- Flow 3 ingress (mean 478.00 Mbit/s)
- Flow 3 egress (mean 477.90 Mbit/s)

![Graph showing per-packet end-to-end delay for different data flows.]

- Flow 1 (95th percentile 210.53 ms)
- Flow 2 (95th percentile 95.60 ms)
- Flow 3 (95th percentile 71.55 ms)
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-05 20:43:43
End at: 2018-07-05 20:44:13
Local clock offset: -0.107 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-07-06 00:11:57
# Datalink statistics

-- Total of 3 flows:
Average throughput: 1207.55 Mbit/s
95th percentile per-packet one-way delay: 211.106 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 679.31 Mbit/s
95th percentile per-packet one-way delay: 218.359 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 575.92 Mbit/s
95th percentile per-packet one-way delay: 206.363 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 438.87 Mbit/s
95th percentile per-packet one-way delay: 51.283 ms
Loss rate: 0.00%
Run 6: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 680.86 Mbps)
- Flow 1 egress (mean 679.31 Mbps)
- Flow 2 ingress (mean 585.42 Mbps)
- Flow 2 egress (mean 575.92 Mbps)
- Flow 3 ingress (mean 438.84 Mbps)
- Flow 3 egress (mean 438.87 Mbps)

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

- Flow 1 (95th percentile 218.36 ms)
- Flow 2 (95th percentile 206.36 ms)
- Flow 3 (95th percentile 51.28 ms)
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-05 21:08:49
End at: 2018-07-05 21:09:19
Local clock offset: -0.101 ms
Remote clock offset: -0.313 ms

# Below is generated by plot.py at 2018-07-06 00:30:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1187.66 Mbit/s
  95th percentile per-packet one-way delay: 162.973 ms
  Loss rate: 2.09%
-- Flow 1:
  Average throughput: 663.18 Mbit/s
  95th percentile per-packet one-way delay: 178.290 ms
  Loss rate: 3.10%
-- Flow 2:
  Average throughput: 568.12 Mbit/s
  95th percentile per-packet one-way delay: 133.881 ms
  Loss rate: 0.58%
-- Flow 3:
  Average throughput: 442.11 Mbit/s
  95th percentile per-packet one-way delay: 172.257 ms
  Loss rate: 1.27%
Run 7: Report of FillP-Sheep — Data Link

Graph 1: Throughput (Mbps)

Graph 2: Per-packet mean delay (ms)

Legend:
- Flow 1 Ingress (mean 684.50 Mbps)
- Flow 1 Egress (mean 663.18 Mbps)
- Flow 2 Ingress (mean 577.48 Mbps)
- Flow 2 Egress (mean 568.12 Mbps)
- Flow 3 Ingress (mean 447.89 Mbps)
- Flow 3 Egress (mean 442.11 Mbps)
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-05 21:33:33
End at: 2018-07-05 21:34:03
Local clock offset: -0.05 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2018-07-06 00:32:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1249.41 Mbit/s
  95th percentile per-packet one-way delay: 142.015 ms
  Loss rate: 3.82%
-- Flow 1:
  Average throughput: 682.02 Mbit/s
  95th percentile per-packet one-way delay: 150.154 ms
  Loss rate: 4.42%
-- Flow 2:
  Average throughput: 599.85 Mbit/s
  95th percentile per-packet one-way delay: 138.554 ms
  Loss rate: 4.17%
-- Flow 3:
  Average throughput: 511.02 Mbit/s
  95th percentile per-packet one-way delay: 118.257 ms
  Loss rate: 0.42%
Run 8: Report of FillP-Sheep — Data Link

![Graph showing network performance metrics over time]

Legend:
- Flow 1 Ingress (mean 713.58 Mbits/s)
- Flow 1 Egress (mean 682.02 Mbits/s)
- Flow 2 Ingress (mean 625.97 Mbits/s)
- Flow 2 Egress (mean 599.85 Mbits/s)
- Flow 3 Ingress (mean 513.32 Mbits/s)
- Flow 3 Egress (mean 511.02 Mbits/s)
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-05 21:58:31
End at: 2018-07-05 21:59:01
Local clock offset: -0.069 ms
Remote clock offset: 1.065 ms

# Below is generated by plot.py at 2018-07-06 00:32:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1248.99 Mbit/s
  95th percentile per-packet one-way delay: 192.560 ms
  Loss rate: 1.29%
-- Flow 1:
  Average throughput: 683.62 Mbit/s
  95th percentile per-packet one-way delay: 199.076 ms
  Loss rate: 0.95%
-- Flow 2:
  Average throughput: 609.86 Mbit/s
  95th percentile per-packet one-way delay: 134.345 ms
  Loss rate: 2.36%
-- Flow 3:
  Average throughput: 483.32 Mbit/s
  95th percentile per-packet one-way delay: 57.302 ms
  Loss rate: 0.00%
Run 9: Report of FillP-Sheep — Data Link
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-05 22:23:30
End at: 2018-07-05 22:24:00
Local clock offset: -0.102 ms
Remote clock offset: -1.406 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1211.80 Mbit/s
95th percentile per-packet one-way delay: 193.957 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 670.60 Mbit/s
95th percentile per-packet one-way delay: 204.475 ms
Loss rate: 3.06%
-- Flow 2:
Average throughput: 577.70 Mbit/s
95th percentile per-packet one-way delay: 172.121 ms
Loss rate: 5.68%
-- Flow 3:
Average throughput: 474.38 Mbit/s
95th percentile per-packet one-way delay: 54.773 ms
Loss rate: 0.08%
Run 10: Report of FillIP-Sheep — Data Link
Run 1: Statistics of Indigo

Start at: 2018-07-05 18:43:34
End at: 2018-07-05 18:44:04
Local clock offset: -0.03 ms
Remote clock offset: 1.106 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.11 Mbit/s
95th percentile per-packet one-way delay: 60.710 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.49 Mbit/s
95th percentile per-packet one-way delay: 59.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 158.90 Mbit/s
95th percentile per-packet one-way delay: 60.709 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 145.27 Mbit/s
95th percentile per-packet one-way delay: 64.022 ms
Loss rate: 0.00%
Run 1: Report of Indigo — Data Link

[Image of graphs showing throughput and per-packet one-way delay over time for different flows.]
Run 2: Statistics of Indigo

Start at: 2018-07-05 19:08:33
End at: 2018-07-05 19:09:03
Local clock offset: -0.144 ms
Remote clock offset: 0.985 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 376.19 Mbit/s
95th percentile per-packet one-way delay: 52.579 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.75 Mbit/s
95th percentile per-packet one-way delay: 52.254 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.25 Mbit/s
95th percentile per-packet one-way delay: 52.603 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 156.85 Mbit/s
95th percentile per-packet one-way delay: 53.186 ms
Loss rate: 0.00%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2018-07-05 19:33:09
End at: 2018-07-05 19:33:39
Local clock offset: -0.049 ms
Remote clock offset: -1.479 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.76 Mbit/s
95th percentile per-packet one-way delay: 55.143 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 188.05 Mbit/s
95th percentile per-packet one-way delay: 53.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 175.91 Mbit/s
95th percentile per-packet one-way delay: 55.272 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 147.52 Mbit/s
95th percentile per-packet one-way delay: 57.582 ms
Loss rate: 0.00%
Run 3: Report of Indigo — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 188.06 Mbps)
  - Flow 1 egress (mean 188.05 Mbps)
  - Flow 2 ingress (mean 175.92 Mbps)
  - Flow 2 egress (mean 175.91 Mbps)
  - Flow 3 ingress (mean 147.54 Mbps)
  - Flow 3 egress (mean 147.52 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 53.60 ms)
  - Flow 2 (95th percentile 55.27 ms)
  - Flow 3 (95th percentile 57.58 ms)
Run 4: Statistics of Indigo

Start at: 2018-07-05 19:58:06
End at: 2018-07-05 19:58:36
Local clock offset: 0.143 ms
Remote clock offset: 1.064 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 350.82 Mbit/s
95th percentile per-packet one-way delay: 53.075 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 188.27 Mbit/s
95th percentile per-packet one-way delay: 52.072 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.08 Mbit/s
95th percentile per-packet one-way delay: 54.492 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 141.05 Mbit/s
95th percentile per-packet one-way delay: 57.654 ms
Loss rate: 0.00%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2018-07-05 20:23:19
End at: 2018-07-05 20:23:49
Local clock offset: 0.03 ms
Remote clock offset: 0.958 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.23 Mbit/s
95th percentile per-packet one-way delay: 51.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.08 Mbit/s
95th percentile per-packet one-way delay: 51.558 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 170.34 Mbit/s
95th percentile per-packet one-way delay: 51.803 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 151.76 Mbit/s
95th percentile per-packet one-way delay: 51.946 ms
Loss rate: 0.00%
Run 5: Report of Indigo — Data Link

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

Data Link Performance Summary:
- Flow 1: Ingress (mean 189.08 Mbit/s), Egress (mean 189.08 Mbit/s)
- Flow 2: Ingress (mean 170.25 Mbit/s), Egress (mean 170.34 Mbit/s)
- Flow 3: Ingress (mean 151.74 Mbit/s), Egress (mean 151.76 Mbit/s)

Packet Delay:
- Flow 1: 51.56 ms (95th percentile)
- Flow 2: 51.80 ms (95th percentile)
- Flow 3: 51.95 ms (95th percentile)
Run 6: Statistics of Indigo

Local clock offset: -0.15 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 342.35 Mbit/s
  95th percentile per-packet one-way delay: 52.010 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 171.06 Mbit/s
  95th percentile per-packet one-way delay: 51.603 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 184.65 Mbit/s
  95th percentile per-packet one-way delay: 52.096 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 150.16 Mbit/s
  95th percentile per-packet one-way delay: 52.731 ms
  Loss rate: 0.00%
Run 6: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 171.06 Mbit/s)
- Flow 1 egress (mean 171.06 Mbit/s)
- Flow 2 ingress (mean 184.64 Mbit/s)
- Flow 2 egress (mean 184.65 Mbit/s)
- Flow 3 ingress (mean 150.15 Mbit/s)
- Flow 3 egress (mean 150.16 Mbit/s)
Run 7: Statistics of Indigo

End at: 2018-07-05 21:13:46
Local clock offset: -0.151 ms
Remote clock offset: 1.164 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 352.96 Mbit/s
  95th percentile per-packet one-way delay: 53.477 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 188.97 Mbit/s
  95th percentile per-packet one-way delay: 52.650 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 169.91 Mbit/s
  95th percentile per-packet one-way delay: 53.523 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 157.98 Mbit/s
  95th percentile per-packet one-way delay: 55.345 ms
  Loss rate: 0.01%
Run 7: Report of Indigo — Data Link
Run 8: Statistics of Indigo

Start at: 2018-07-05 21:37:56
End at: 2018-07-05 21:38:26
Local clock offset: -0.134 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.32 Mbit/s
95th percentile per-packet one-way delay: 57.100 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 189.28 Mbit/s
95th percentile per-packet one-way delay: 55.649 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 167.35 Mbit/s
95th percentile per-packet one-way delay: 57.146 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 144.88 Mbit/s
95th percentile per-packet one-way delay: 59.430 ms
Loss rate: 0.01%
Run 8: Report of Indigo — Data Link

![Throughput (Mbps) vs Time (s)](image)

- **Throughput (Mbps)**:
  - Flow 1 ingress (mean 189.36 Mbps)
  - Flow 1 egress (mean 189.28 Mbps)
  - Flow 2 ingress (mean 167.40 Mbps)
  - Flow 2 egress (mean 167.35 Mbps)
  - Flow 3 ingress (mean 144.95 Mbps)
  - Flow 3 egress (mean 144.88 Mbps)

![Per-packet one-way delay (ms) vs Time (s)](image)

- **Per-packet one-way delay (ms)**:
  - Flow 1 (95th percentile 55.65 ms)
  - Flow 2 (95th percentile 57.15 ms)
  - Flow 3 (95th percentile 59.43 ms)
Run 9: Statistics of Indigo

Start at: 2018-07-05 22:03:01
End at: 2018-07-05 22:03:31
Local clock offset: 0.217 ms
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.61 Mbit/s
95th percentile per-packet one-way delay: 50.811 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.33 Mbit/s
95th percentile per-packet one-way delay: 50.405 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 177.76 Mbit/s
95th percentile per-packet one-way delay: 50.964 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 151.30 Mbit/s
95th percentile per-packet one-way delay: 52.143 ms
Loss rate: 0.00%
Run 9: Report of Indigo — Data Link
Run 10: Statistics of Indigo

Start at: 2018-07-05 22:28:10
End at: 2018-07-05 22:28:40
Local clock offset: -0.061 ms
Remote clock offset: 1.25 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 354.52 Mbit/s
  95th percentile per-packet one-way delay: 53.224 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 190.70 Mbit/s
  95th percentile per-packet one-way delay: 52.612 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 175.04 Mbit/s
  95th percentile per-packet one-way delay: 53.344 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 146.90 Mbit/s
  95th percentile per-packet one-way delay: 55.231 ms
  Loss rate: 0.00%
Run 10: Report of Indigo — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 1: Statistics of LEDBAT

Start at: 2018-07-05 18:30:30
End at: 2018-07-05 18:31:00
Local clock offset: -0.047 ms
Remote clock offset: 1.081 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.56 Mbit/s
95th percentile per-packet one-way delay: 53.749 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.74 Mbit/s
95th percentile per-packet one-way delay: 53.596 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.97 Mbit/s
95th percentile per-packet one-way delay: 54.174 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.76 Mbit/s
95th percentile per-packet one-way delay: 53.323 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

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

Legend:
- Flow 1 ingress (mean 32.74 Mbit/s)
- Flow 1 egress (mean 32.74 Mbit/s)
- Flow 2 ingress (mean 22.97 Mbit/s)
- Flow 2 egress (mean 22.97 Mbit/s)
- Flow 3 ingress (mean 10.76 Mbit/s)
- Flow 3 egress (mean 10.76 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 53.60 ms)
- Flow 2 (95th percentile 54.17 ms)
- Flow 3 (95th percentile 53.32 ms)
Run 2: Statistics of LEDBAT

End at: 2018-07-05 18:55:34
Local clock offset: -0.021 ms
Remote clock offset: -1.432 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.78 Mbit/s
95th percentile per-packet one-way delay: 50.967 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 50.802 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 51.205 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 51.700 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

![Graph showing throughput and packet loss](image-url)

- Flow 1 ingress (mean 33.64 Mbps)
- Flow 1 egress (mean 33.64 Mbps)
- Flow 2 ingress (mean 21.77 Mbps)
- Flow 2 egress (mean 21.78 Mbps)
- Flow 3 ingress (mean 10.99 Mbps)
- Flow 3 egress (mean 10.99 Mbps)
Run 3: Statistics of LEDBAT

Start at: 2018-07-05 19:20:16
End at: 2018-07-05 19:20:46
Local clock offset: -0.038 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 46.57 Mbit/s
  95th percentile per-packet one-way delay: 51.540 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 32.77 Mbit/s
  95th percentile per-packet one-way delay: 51.537 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 15.17 Mbit/s
  95th percentile per-packet one-way delay: 51.346 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 11.26 Mbit/s
  95th percentile per-packet one-way delay: 52.241 ms
  Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link

![Graphs showing network performance metrics for different flows.]
Run 4: Statistics of LEDBAT

Start at: 2018-07-05 19:44:57
End at: 2018-07-05 19:45:27
Local clock offset: -0.035 ms
Remote clock offset: 1.514 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 52.29 Mbit/s
  95th percentile per-packet one-way delay: 53.780 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 33.72 Mbit/s
  95th percentile per-packet one-way delay: 53.594 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 22.86 Mbit/s
  95th percentile per-packet one-way delay: 54.184 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 10.38 Mbit/s
  95th percentile per-packet one-way delay: 53.691 ms
  Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

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**Throughput (Mbit/s)**

- **Flow 1 ingress (mean 33.72 Mbit/s)**
- **Flow 1 egress (mean 33.72 Mbit/s)**
- **Flow 2 ingress (mean 22.86 Mbit/s)**
- **Flow 2 egress (mean 22.86 Mbit/s)**
- **Flow 3 ingress (mean 10.38 Mbit/s)**
- **Flow 3 egress (mean 10.38 Mbit/s)**

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

- **Flow 1 (95th percentile 53.59 ms)**
- **Flow 2 (95th percentile 54.18 ms)**
- **Flow 3 (95th percentile 53.69 ms)**
Run 5: Statistics of LEDBAT

Start at: 2018-07-05 20:09:36
End at: 2018-07-05 20:10:06
Local clock offset: 0.025 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.63 Mbit/s
95th percentile per-packet one-way delay: 51.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.64 Mbit/s
95th percentile per-packet one-way delay: 51.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.54 Mbit/s
95th percentile per-packet one-way delay: 51.558 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 50.935 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link
Run 6: Statistics of LEDBAT

Start at: 2018-07-05 20:35:07
End at: 2018-07-05 20:35:37
Local clock offset: -0.194 ms
Remote clock offset: -1.274 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.99 Mbit/s
95th percentile per-packet one-way delay: 50.658 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.84 Mbit/s
95th percentile per-packet one-way delay: 50.639 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.57 Mbit/s
95th percentile per-packet one-way delay: 50.606 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 51.122 ms
Loss rate: 0.00%
Run 6: Report of LEDBAT — Data Link

![Graph 1: Throughput vs Time]

- **Flow 1 ingress (mean 32.84 Mbit/s)**
- **Flow 1 egress (mean 32.84 Mbit/s)**
- **Flow 2 ingress (mean 21.56 Mbit/s)**
- **Flow 2 egress (mean 21.57 Mbit/s)**
- **Flow 3 ingress (mean 11.68 Mbit/s)**
- **Flow 3 egress (mean 11.68 Mbit/s)**

![Graph 2: Per-packet round-trip delay vs Time]

- **Flow 1 (95th percentile 50.64 ms)**
- **Flow 2 (95th percentile 50.61 ms)**
- **Flow 3 (95th percentile 51.12 ms)**
Run 7: Statistics of LEDBAT

Start at: 2018-07-05 21:00:07
End at: 2018-07-05 21:00:37
Local clock offset: -0.266 ms
Remote clock offset: 0.193 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.46 Mbit/s
95th percentile per-packet one-way delay: 52.375 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.77 Mbit/s
95th percentile per-packet one-way delay: 52.338 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.95 Mbit/s
95th percentile per-packet one-way delay: 52.425 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 52.600 ms
Loss rate: 0.00%
Run 7: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 34.76 Mbit/s)
- Flow 1 egress (mean 34.77 Mbit/s)
- Flow 2 ingress (mean 17.95 Mbit/s)
- Flow 2 egress (mean 17.95 Mbit/s)
- Flow 3 ingress (mean 11.50 Mbit/s)
- Flow 3 egress (mean 11.50 Mbit/s)

![Graph 2: Packet Loss over Time](image2)

- Flow 1 (95th percentile 52.34 ms)
- Flow 2 (95th percentile 52.42 ms)
- Flow 3 (95th percentile 52.60 ms)
Run 8: Statistics of LEDBAT

Local clock offset: 0.023 ms
Remote clock offset: 0.137 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 52.06 Mbit/s
  95th percentile per-packet one-way delay: 52.178 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 32.79 Mbit/s
  95th percentile per-packet one-way delay: 52.078 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 23.57 Mbit/s
  95th percentile per-packet one-way delay: 52.710 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 10.77 Mbit/s
  95th percentile per-packet one-way delay: 51.290 ms
  Loss rate: 0.00%
Run 8: Report of LEDBAT — Data Link

![Graphs showing throughput and per-packet round-trip delay over time for different flow rates.](image-url)
Run 9: Statistics of LEDBAT

Start at: 2018-07-05 21:49:43  
End at: 2018-07-05 21:50:13  
Local clock offset: -0.164 ms  
Remote clock offset: 1.248 ms

# Below is generated by plot.py at 2018-07-06 00:38:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 51.68 Mbit/s  
95th percentile per-packet one-way delay: 53.464 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 32.94 Mbit/s  
95th percentile per-packet one-way delay: 53.456 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 22.86 Mbit/s  
95th percentile per-packet one-way delay: 53.682 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 10.76 Mbit/s  
95th percentile per-packet one-way delay: 52.850 ms  
Loss rate: 0.00%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-07-05 22:14:51
End at: 2018-07-05 22:15:21
Local clock offset: -0.212 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-07-06 00:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.64 Mbit/s
95th percentile per-packet one-way delay: 53.503 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.71 Mbit/s
95th percentile per-packet one-way delay: 51.948 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.83 Mbit/s
95th percentile per-packet one-way delay: 52.021 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 55.102 ms
Loss rate: 0.01%
Run 10: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-05 18:27:35
End at: 2018-07-05 18:28:05
Local clock offset: -0.096 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2018-07-06 00:40:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 597.01 Mbit/s
  95th percentile per-packet one-way delay: 113.370 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 553.01 Mbit/s
  95th percentile per-packet one-way delay: 114.158 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 36.14 Mbit/s
  95th percentile per-packet one-way delay: 113.336 ms
  Loss rate: 0.28%
-- Flow 3:
  Average throughput: 60.86 Mbit/s
  95th percentile per-packet one-way delay: 108.945 ms
  Loss rate: 0.52%
Run 1: Report of PCC-Allegro — Data Link

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

**Throughput**
- Flow 1 ingress (mean 553.97 Mbit/s)
- Flow 1 egress (mean 553.01 Mbit/s)
- Flow 2 ingress (mean 36.25 Mbit/s)
- Flow 2 egress (mean 36.14 Mbit/s)
- Flow 3 ingress (mean 61.01 Mbit/s)
- Flow 3 egress (mean 60.96 Mbit/s)

**Delay**
- Flow 1 (95th percentile 114.16 ms)
- Flow 2 (95th percentile 113.34 ms)
- Flow 3 (95th percentile 108.94 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-05 18:52:07
End at: 2018-07-05 18:52:37
Local clock offset: -0.017 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2018-07-06 00:40:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 556.06 Mbit/s
95th percentile per-packet one-way delay: 197.089 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 523.24 Mbit/s
95th percentile per-packet one-way delay: 196.262 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 34.29 Mbit/s
95th percentile per-packet one-way delay: 199.379 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 200.552 ms
Loss rate: 1.94%
Run 2: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 529.86 Mbit/s)**
- **Flow 1 egress (mean 523.24 Mbit/s)**
- **Flow 2 ingress (mean 34.74 Mbit/s)**
- **Flow 2 egress (mean 34.29 Mbit/s)**
- **Flow 3 ingress (mean 31.05 Mbit/s)**
- **Flow 3 egress (mean 30.45 Mbit/s)**

![Graph 2: Per-packet end-to-end delay over time](image2)

- **Flow 1 (95th percentile 196.26 ms)**
- **Flow 2 (95th percentile 199.38 ms)**
- **Flow 3 (95th percentile 200.55 ms)**
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-05 19:17:13
End at: 2018-07-05 19:17:43
Local clock offset: 0.073 ms
Remote clock offset: -1.502 ms

# Below is generated by plot.py at 2018-07-06 00:40:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.87 Mbit/s
95th percentile per-packet one-way delay: 202.165 ms
Loss rate: 4.99%
-- Flow 1:
Average throughput: 486.68 Mbit/s
95th percentile per-packet one-way delay: 203.417 ms
Loss rate: 4.92%
-- Flow 2:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 204.666 ms
Loss rate: 6.21%
-- Flow 3:
Average throughput: 114.85 Mbit/s
95th percentile per-packet one-way delay: 174.007 ms
Loss rate: 5.78%
Run 3: Report of PCC-Allegro — Data Link

![Graph showing data link performance over time with throughput and per-packet one-way delay metrics for different flows.]

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Run 4: Statistics of PCC-Allegro

Start at: 2018-07-05 19:41:55
End at: 2018-07-05 19:42:25
Local clock offset: -0.113 ms
Remote clock offset: -0.294 ms

# Below is generated by plot.py at 2018-07-06 00:40:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 576.65 Mbit/s
95th percentile per-packet one-way delay: 170.898 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 528.55 Mbit/s
95th percentile per-packet one-way delay: 170.766 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 172.472 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 18.64 Mbit/s
95th percentile per-packet one-way delay: 128.545 ms
Loss rate: 0.00%
Run 4: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 532.71 Mbps)**
- **Flow 1 egress (mean 528.55 Mbps)**
- **Flow 2 ingress (mean 63.56 Mbps)**
- **Flow 2 egress (mean 63.21 Mbps)**
- **Flow 3 ingress (mean 18.64 Mbps)**
- **Flow 3 egress (mean 18.64 Mbps)**

![Graph 2: Packet Loss vs Time (delay ms)](image2)

- **Flow 1 (95th percentile 170.77 ms)**
- **Flow 2 (95th percentile 172.47 ms)**
- **Flow 3 (95th percentile 128.54 ms)**
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-05 20:06:46
End at: 2018-07-05 20:07:16
Local clock offset: 0.061 ms
Remote clock offset: 0.192 ms

# Below is generated by plot.py at 2018-07-06 00:41:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 583.79 Mbit/s
  95th percentile per-packet one-way delay: 168.506 ms
  Loss rate: 1.12%
-- Flow 1:
  Average throughput: 516.53 Mbit/s
  95th percentile per-packet one-way delay: 168.631 ms
  Loss rate: 1.16%
-- Flow 2:
  Average throughput: 70.68 Mbit/s
  95th percentile per-packet one-way delay: 168.726 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 61.65 Mbit/s
  95th percentile per-packet one-way delay: 78.871 ms
  Loss rate: 0.30%
Run 5: Report of PCC-Allegro — Data Link
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-05 20:31:58
End at: 2018-07-05 20:32:28
Local clock offset: 0.077 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2018-07-06 00:42:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 582.38 Mbit/s
95th percentile per-packet one-way delay: 171.071 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 548.27 Mbit/s
95th percentile per-packet one-way delay: 170.923 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 36.12 Mbit/s
95th percentile per-packet one-way delay: 171.760 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 173.225 ms
Loss rate: 2.20%
Run 6: Report of PCC-Allegro — Data Link

![Graph 1: Throughput (Mbps)]

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

Start at: 2018-07-05 20:57:04
End at: 2018-07-05 20:57:34
Local clock offset: 0.069 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2018-07-06 00:42:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.53 Mbit/s
95th percentile per-packet one-way delay: 168.997 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 521.81 Mbit/s
95th percentile per-packet one-way delay: 168.857 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 28.98 Mbit/s
95th percentile per-packet one-way delay: 169.557 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 62.20 Mbit/s
95th percentile per-packet one-way delay: 170.111 ms
Loss rate: 1.23%
Run 8: Statistics of PCC-Allegro

Local clock offset: 0.019 ms
Remote clock offset: -1.294 ms

# Below is generated by plot.py at 2018-07-06 00:48:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 577.41 Mbit/s
  95th percentile per-packet one-way delay: 162.433 ms
  Loss rate: 0.22%
-- Flow 1:
  Average throughput: 511.80 Mbit/s
  95th percentile per-packet one-way delay: 162.349 ms
  Loss rate: 0.22%
-- Flow 2:
  Average throughput: 66.26 Mbit/s
  95th percentile per-packet one-way delay: 163.104 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 65.47 Mbit/s
  95th percentile per-packet one-way delay: 162.655 ms
  Loss rate: 0.10%
Run 8: Report of PCC-Allegro — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress** (mean 512.95 Mbps)
- **Flow 1 egress** (mean 511.80 Mbps)
- **Flow 2 ingress** (mean 66.39 Mbps)
- **Flow 2 egress** (mean 66.26 Mbps)
- **Flow 3 ingress** (mean 65.54 Mbps)
- **Flow 3 egress** (mean 65.47 Mbps)

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

- **Flow 1** (95th percentile 162.35 ms)
- **Flow 2** (95th percentile 163.10 ms)
- **Flow 3** (95th percentile 162.66 ms)
Run 9: Statistics of PCC-Allegro

End at: 2018-07-05 21:47:07
Local clock offset: -0.013 ms
Remote clock offset: -0.267 ms

# Below is generated by plot.py at 2018-07-06 00:49:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 572.51 Mbit/s
95th percentile per-packet one-way delay: 169.567 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 569.45 Mbit/s
95th percentile per-packet one-way delay: 169.452 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 167.480 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 174.893 ms
Loss rate: 0.91%
Run 9: Report of PCC-Allegro — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 574.18 Mbit/s)  
Flow 1 egress (mean 569.45 Mbit/s)
Flow 2 ingress (mean 2.44 Mbit/s)  
Flow 2 egress (mean 2.43 Mbit/s)
Flow 3 ingress (mean 4.43 Mbit/s)  
Flow 3 egress (mean 4.39 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 169.45 ms)  
Flow 2 (95th percentile 167.48 ms)  
Flow 3 (95th percentile 174.89 ms)
Run 10: Statistics of PCC-Allegro

End at: 2018-07-05 22:12:17
Local clock offset: 0.037 ms
Remote clock offset: 0.081 ms

# Below is generated by plot.py at 2018-07-06 00:49:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 587.49 Mbit/s
95th percentile per-packet one-way delay: 197.190 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 531.76 Mbit/s
95th percentile per-packet one-way delay: 197.550 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 55.56 Mbit/s
95th percentile per-packet one-way delay: 170.639 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 165.660 ms
Loss rate: 1.60%
Run 10: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2018-07-05 18:37:37
End at: 2018-07-05 18:38:07
Local clock offset: 0.048 ms
Remote clock offset: -1.371 ms

# Below is generated by plot.py at 2018-07-06 00:51:45
# Datalink statistics
  -- Total of 3 flows:
  Average throughput: 357.04 Mbit/s
  95th percentile per-packet one-way delay: 170.718 ms
  Loss rate: 1.51%
  -- Flow 1:
  Average throughput: 229.17 Mbit/s
  95th percentile per-packet one-way delay: 181.365 ms
  Loss rate: 1.45%
  -- Flow 2:
  Average throughput: 105.16 Mbit/s
  95th percentile per-packet one-way delay: 163.324 ms
  Loss rate: 1.01%
  -- Flow 3:
  Average throughput: 174.81 Mbit/s
  95th percentile per-packet one-way delay: 166.346 ms
  Loss rate: 2.35%
Run 1: Report of PCC-Expr — Data Link

![Graph showing network throughput and packet delay over time for different flows with indicated mean rates.](image-url)
Run 2: Statistics of PCC-Expr

Start at: 2018-07-05 19:02:08
End at: 2018-07-05 19:02:38
Local clock offset: -0.108 ms
Remote clock offset: -1.428 ms

# Below is generated by plot.py at 2018-07-06 00:51:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 339.70 Mbit/s
  95th percentile per-packet one-way delay: 246.199 ms
  Loss rate: 2.22%
-- Flow 1:
  Average throughput: 181.56 Mbit/s
  95th percentile per-packet one-way delay: 168.159 ms
  Loss rate: 1.55%
-- Flow 2:
  Average throughput: 233.06 Mbit/s
  95th percentile per-packet one-way delay: 270.361 ms
  Loss rate: 3.02%
-- Flow 3:
  Average throughput: 9.46 Mbit/s
  95th percentile per-packet one-way delay: 159.729 ms
  Loss rate: 0.94%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

End at: 2018-07-05 19:27:58
Local clock offset: -0.11 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2018-07-06 00:51:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.41 Mbit/s
95th percentile per-packet one-way delay: 53.767 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.09 Mbit/s
95th percentile per-packet one-way delay: 53.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 104.35 Mbit/s
95th percentile per-packet one-way delay: 53.798 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 66.47 Mbit/s
95th percentile per-packet one-way delay: 53.782 ms
Loss rate: 0.00%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2018-07-05 19:52:08
End at: 2018-07-05 19:52:38
Local clock offset: 0.075 ms
Remote clock offset: 0.164 ms

# Below is generated by plot.py at 2018-07-06 00:55:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.83 Mbit/s
95th percentile per-packet one-way delay: 62.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 285.62 Mbit/s
95th percentile per-packet one-way delay: 68.073 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 89.95 Mbit/s
95th percentile per-packet one-way delay: 54.286 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 92.21 Mbit/s
95th percentile per-packet one-way delay: 53.740 ms
Loss rate: 0.00%
Run 4: Report of PCC-Expr — Data Link

![Graph showing throughput and round-trip delay over time for different flows with their respective mean bandwidths and 95th percentiles for delay.]
Run 5: Statistics of PCC-Expr

Start at: 2018-07-05 20:16:41
End at: 2018-07-05 20:17:11
Local clock offset: -0.06 ms
Remote clock offset: 0.074 ms

# Below is generated by plot.py at 2018-07-06 00:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.50 Mbit/s
95th percentile per-packet one-way delay: 180.079 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 280.36 Mbit/s
95th percentile per-packet one-way delay: 173.280 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 132.82 Mbit/s
95th percentile per-packet one-way delay: 182.445 ms
Loss rate: 2.97%
-- Flow 3:
Average throughput: 126.75 Mbit/s
95th percentile per-packet one-way delay: 181.175 ms
Loss rate: 5.63%
Run 5: Report of PCC-Expr — Data Link
Run 6: Statistics of PCC-Expr

Start at: 2018-07-05 20:42:10
End at: 2018-07-05 20:42:40
Local clock offset: -0.191 ms
Remote clock offset: -1.475 ms

# Below is generated by plot.py at 2018-07-06 00:57:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 278.23 Mbit/s
  95th percentile per-packet one-way delay: 114.656 ms
  Loss rate: 0.40%
-- Flow 1:
  Average throughput: 113.79 Mbit/s
  95th percentile per-packet one-way delay: 52.278 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 169.71 Mbit/s
  95th percentile per-packet one-way delay: 159.179 ms
  Loss rate: 0.73%
-- Flow 3:
  Average throughput: 156.41 Mbit/s
  95th percentile per-packet one-way delay: 53.508 ms
  Loss rate: 0.30%
Run 6: Report of PCC-Expr — Data Link

![Graph showing throughput and delay over time]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 113.90 Mbps)
  - Flow 1 egress (mean 113.79 Mbps)
  - Flow 2 ingress (mean 170.94 Mbps)
  - Flow 2 egress (mean 169.71 Mbps)
  - Flow 3 ingress (mean 156.91 Mbps)
  - Flow 3 egress (mean 156.41 Mbps)

- **Per-packet end-to-end delay (ms):**
  - Flow 1 (95th percentile 52.28 ms)
  - Flow 2 (95th percentile 159.18 ms)
  - Flow 3 (95th percentile 53.51 ms)
Run 7: Statistics of PCC-Expr

Start at: 2018-07-05 21:07:07
End at: 2018-07-05 21:07:37
Local clock offset: -0.206 ms
Remote clock offset: 1.243 ms

# Below is generated by plot.py at 2018-07-06 01:02:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 393.28 Mbit/s
  95th percentile per-packet one-way delay: 272.719 ms
  Loss rate: 4.53%
-- Flow 1:
  Average throughput: 297.83 Mbit/s
  95th percentile per-packet one-way delay: 325.486 ms
  Loss rate: 4.96%
-- Flow 2:
  Average throughput: 103.93 Mbit/s
  95th percentile per-packet one-way delay: 207.323 ms
  Loss rate: 2.44%
-- Flow 3:
  Average throughput: 79.80 Mbit/s
  95th percentile per-packet one-way delay: 205.375 ms
  Loss rate: 4.92%
Run 7: Report of PCC-Expr — Data Link
Run 8: Statistics of PCC-Expr

End at: 2018-07-05 21:32:29
Local clock offset: -0.097 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2018-07-06 01:02:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.00 Mbit/s
95th percentile per-packet one-way delay: 55.398 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 125.60 Mbit/s
95th percentile per-packet one-way delay: 53.502 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 224.17 Mbit/s
95th percentile per-packet one-way delay: 58.959 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 82.95 Mbit/s
95th percentile per-packet one-way delay: 53.688 ms
Loss rate: 0.01%
Run 8: Report of PCC-Expr — Data Link
Run 9: Statistics of PCC-Expr

Start at: 2018-07-05 21:56:51
End at: 2018-07-05 21:57:21
Local clock offset: -0.058 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 411.64 Mbit/s
  95th percentile per-packet one-way delay: 219.098 ms
  Loss rate: 14.63%
-- Flow 1:
  Average throughput: 329.57 Mbit/s
  95th percentile per-packet one-way delay: 220.732 ms
  Loss rate: 15.65%
-- Flow 2:
  Average throughput: 121.09 Mbit/s
  95th percentile per-packet one-way delay: 212.485 ms
  Loss rate: 10.32%
-- Flow 3:
  Average throughput: 4.66 Mbit/s
  95th percentile per-packet one-way delay: 207.698 ms
  Loss rate: 7.29%
Run 9: Report of PCC-Expr — Data Link

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

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

Local clock offset: -0.058 ms
Remote clock offset: 1.328 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.87 Mbit/s
95th percentile per-packet one-way delay: 55.071 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 118.68 Mbit/s
95th percentile per-packet one-way delay: 55.096 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 109.49 Mbit/s
95th percentile per-packet one-way delay: 54.919 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 189.07 Mbit/s
95th percentile per-packet one-way delay: 53.304 ms
Loss rate: 0.00%
Run 10: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-05 18:46:35
End at: 2018-07-05 18:47:05
Local clock offset: 0.166 ms
Remote clock offset: -0.293 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.72 Mbit/s
95th percentile per-packet one-way delay: 52.984 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 50.034 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.86 Mbit/s
95th percentile per-packet one-way delay: 52.829 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.79 Mbit/s
95th percentile per-packet one-way delay: 53.018 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.06 Mbps)
Flow 1 egress (mean 0.06 Mbps)
Flow 2 ingress (mean 61.86 Mbps)
Flow 2 egress (mean 61.86 Mbps)
Flow 3 ingress (mean 62.80 Mbps)
Flow 3 egress (mean 62.79 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 50.03 ms)
Flow 2 (95th percentile 52.83 ms)
Flow 3 (95th percentile 53.02 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-05 19:11:38
End at: 2018-07-05 19:12:08
Local clock offset: -0.005 ms
Remote clock offset: 1.268 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.02 Mbit/s
95th percentile per-packet one-way delay: 54.397 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.01 Mbit/s
95th percentile per-packet one-way delay: 54.416 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 51.980 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.54 Mbit/s
95th percentile per-packet one-way delay: 54.319 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

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

Flow 1 ingress (mean 61.00 Mbit/s)  
Flow 1 egress (mean 61.01 Mbit/s)  
Flow 2 ingress (mean 45.74 Mbit/s)  
Flow 2 egress (mean 45.74 Mbit/s)  
Flow 3 ingress (mean 35.54 Mbit/s)  
Flow 3 egress (mean 35.54 Mbit/s)
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-05 19:36:15
End at: 2018-07-05 19:36:45
Local clock offset: -0.017 ms
Remote clock offset: 1.275 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.76 Mbit/s
95th percentile per-packet one-way delay: 54.806 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 54.497 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.11 Mbit/s
95th percentile per-packet one-way delay: 54.780 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 54.868 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 70.88 Mbit/s)
- Flow 1 egress (mean 70.89 Mbit/s)
- Flow 2 ingress (mean 68.11 Mbit/s)
- Flow 2 egress (mean 68.11 Mbit/s)
- Flow 3 ingress (mean 62.96 Mbit/s)
- Flow 3 egress (mean 62.94 Mbit/s)

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

- Flow 1 (95th percentile 54.50 ms)
- Flow 2 (95th percentile 54.78 ms)
- Flow 3 (95th percentile 54.87 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-05 20:01:10
End at: 2018-07-05 20:01:40
Local clock offset: 0.006 ms
Remote clock offset: 1.293 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.48 Mbit/s
95th percentile per-packet one-way delay: 54.305 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 75.00 Mbit/s
95th percentile per-packet one-way delay: 54.273 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.56 Mbit/s
95th percentile per-packet one-way delay: 54.334 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 54.333 ms
Loss rate: 0.03%
Run 4: Report of QUIC Cubic — Data Link

[Data Link Diagram]
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-05 20:26:26
End at: 2018-07-05 20:26:56
Local clock offset: 0.036 ms
Remote clock offset: 1.403 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.82 Mbit/s
95th percentile per-packet one-way delay: 54.865 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.68 Mbit/s
95th percentile per-packet one-way delay: 54.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.68 Mbit/s
95th percentile per-packet one-way delay: 54.893 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.48 Mbit/s
95th percentile per-packet one-way delay: 54.597 ms
Loss rate: 0.03%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-05 20:51:26
End at: 2018-07-05 20:51:56
Local clock offset: 0.043 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 127.96 Mbit/s
95th percentile per-packet one-way delay: 52.962 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 49.802 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.36 Mbit/s
95th percentile per-packet one-way delay: 50.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.45 Mbit/s
95th percentile per-packet one-way delay: 53.084 ms
Loss rate: 0.00%
Run 6: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 73.64 Mbit/s)
- Flow 1 egress (mean 73.65 Mbit/s)
- Flow 2 ingress (mean 65.36 Mbit/s)
- Flow 2 egress (mean 65.36 Mbit/s)
- Flow 3 ingress (mean 33.45 Mbit/s)
- Flow 3 egress (mean 33.45 Mbit/s)

![Graph showing per-packet round-trip times over time.](image-url)

- Flow 1 (95th percentile 49.80 ms)
- Flow 2 (95th percentile 50.12 ms)
- Flow 3 (95th percentile 53.08 ms)
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-05 21:16:21
End at: 2018-07-05 21:16:51
Local clock offset: -0.109 ms
Remote clock offset: 1.312 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.65 Mbit/s
95th percentile per-packet one-way delay: 54.803 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 74.46 Mbit/s
95th percentile per-packet one-way delay: 54.824 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.96 Mbit/s
95th percentile per-packet one-way delay: 54.648 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 62.11 Mbit/s
95th percentile per-packet one-way delay: 52.018 ms
Loss rate: 0.00%
Run 7: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 74.47 Mbit/s)
- Flow 1 egress (mean 74.46 Mbit/s)
- Flow 2 ingress (mean 53.96 Mbit/s)
- Flow 2 egress (mean 53.96 Mbit/s)
- Flow 3 ingress (mean 62.11 Mbit/s)
- Flow 3 egress (mean 62.11 Mbit/s)
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-05 21:41:01
End at: 2018-07-05 21:41:31
Local clock offset: -0.095 ms
Remote clock offset: -1.136 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.24 Mbit/s
95th percentile per-packet one-way delay: 52.662 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 52.687 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.98 Mbit/s
95th percentile per-packet one-way delay: 52.603 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 53.87 Mbit/s
95th percentile per-packet one-way delay: 52.444 ms
Loss rate: 0.00%
Run 8: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 56.72 Mbit/s)  Flow 1 egress (mean 56.72 Mbit/s)
Flow 2 ingress (mean 38.98 Mbit/s)  Flow 2 egress (mean 38.98 Mbit/s)
Flow 3 ingress (mean 53.87 Mbit/s)  Flow 3 egress (mean 53.87 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 52.69 ms)  Flow 2 (95th percentile 52.60 ms)  Flow 3 (95th percentile 52.44 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-05 22:06:06
End at: 2018-07-05 22:06:36
Local clock offset: -0.043 ms
Remote clock offset: -1.19 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 125.80 Mbit/s
  95th percentile per-packet one-way delay: 51.813 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 62.55 Mbit/s
  95th percentile per-packet one-way delay: 51.839 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 71.84 Mbit/s
  95th percentile per-packet one-way delay: 49.292 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 47.36 Mbit/s
  95th percentile per-packet one-way delay: 49.420 ms
  Loss rate: 0.00%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

End at: 2018-07-05 22:31:44
Local clock offset: 0.075 ms
Remote clock offset: 1.028 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.40 Mbit/s
95th percentile per-packet one-way delay: 54.477 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.40 Mbit/s
95th percentile per-packet one-way delay: 54.101 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 54.503 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 54.561 ms
Loss rate: 0.00%
Run 10: Report of QUIC Cubic — Data Link

![Graph showing network performance metrics for different flows over time.](image)

Legend:
- Flow 1 ingress (mean 74.40 Mbit/s)
- Flow 1 egress (mean 74.40 Mbit/s)
- Flow 2 ingress (mean 72.61 Mbit/s)
- Flow 2 egress (mean 72.63 Mbit/s)
- Flow 3 ingress (mean 11.53 Mbit/s)
- Flow 3 egress (mean 11.58 Mbit/s)
Run 1: Statistics of SCReAM

Start at: 2018-07-05 18:24:57
End at: 2018-07-05 18:25:27
Local clock offset: -0.07 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.899 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.919 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.769 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.766 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2018-07-05 18:49:30
End at: 2018-07-05 18:50:00
Local clock offset: 0.151 ms
Remote clock offset: 1.095 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.815 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.832 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 51.752 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 51.590 ms
  Loss rate: 0.00%
Run 2: 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 con. wrk./delay (ms)

Time (s)

Flow 1 (95th percentile 54.83 ms)  
Flow 2 (95th percentile 51.75 ms)  
Flow 3 (95th percentile 51.59 ms)
Run 3: Statistics of SCReAM

Start at: 2018-07-05 19:14:34
End at: 2018-07-05 19:15:04
Local clock offset: -0.113 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.618 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.093 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.684 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.376 ms
Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link

**Throughput (Mbps)**

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

**Per-packet mean delay (ms)**

- Flow 1 (95th percentile 53.09 ms)
- Flow 2 (95th percentile 53.68 ms)
- Flow 3 (95th percentile 53.38 ms)
Run 4: Statistics of SCReAM

Start at: 2018-07-05 19:39:15
End at: 2018-07-05 19:39:45
Local clock offset: -0.158 ms
Remote clock offset: 0.014 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 54.058 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 54.080 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.936 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.051 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

![Graph showing network traffic throughput and packet delay over time](Image)

Throughput (Mbps)

- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 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 round-trip delay (ms)

- Flow 1 (95th percentile 54.08 ms)
- Flow 2 (95th percentile 53.94 ms)
- Flow 3 (95th percentile 51.05 ms)
Run 5: Statistics of SCReAM

Start at: 2018-07-05 20:04:07
End at: 2018-07-05 20:04:37
Local clock offset: 0.077 ms
Remote clock offset: 1.05 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.380 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.409 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 51.693 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 54.368 ms
  Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

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

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

![Graph 2: Per-packet end-to-end delay (ms)](image)

- **Flow 1** (95th percentile 54.41 ms)
- **Flow 2** (95th percentile 51.69 ms)
- **Flow 3** (95th percentile 54.37 ms)
Run 6: Statistics of SCReAM

Start at: 2018-07-05 20:29:21
End at: 2018-07-05 20:29:51
Local clock offset: -0.095 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.627 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.635 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.339 ms
Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-07-05 20:54:25
End at: 2018-07-05 20:54:55
Local clock offset: 0.029 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 53.465 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.483 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.757 ms
Loss rate: 0.00%
Run 7: Report of SCReAM — Data Link

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

- **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)**

![Graph of Per-packet END (delay ms) vs Time (s)](image2)

- **Flow 1 (95th percentile 53.48 ms)**
- **Flow 2 (95th percentile 53.41 ms)**
- **Flow 3 (95th percentile 50.76 ms)**
Run 8: Statistics of SCReAM

Start at: 2018-07-05 21:19:19  
End at: 2018-07-05 21:19:49  
Local clock offset: 0.003 ms  
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-07-06 01:05:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 53.187 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 53.210 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 50.451 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 50.699 ms  
Loss rate: 0.00%
Run 9: Statistics of SCReAM

End at: 2018-07-05 21:44:29
Local clock offset: 0.291 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 53.401 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.430 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.024 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 52.885 ms
  Loss rate: 0.00%
Run 10: Statistics of SCReAM

Start at: 2018-07-05 22:09:09
End at: 2018-07-05 22:09:39
Local clock offset: 0.086 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 53.170 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 50.602 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.099 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 53.233 ms
  Loss rate: 0.00%
Run 10: Report of SCReAM — Data Link

![Graph showing throughput and packet round-trip delay over time for different flow rates and delays.]

- 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 round-trip delay varies for different flows, with Flow 1 having the highest delay at 50.60 ms, Flow 2 at 53.10 ms, and Flow 3 at 53.23 ms.
Run 1: Statistics of Sprout

Start at: 2018-07-05 18:36:28
End at: 2018-07-05 18:36:58
Local clock offset: -0.025 ms
Remote clock offset: -1.192 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.89 Mbit/s
95th percentile per-packet one-way delay: 50.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 51.073 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 50.760 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 52.379 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

![Graph of throughput vs time](chart1)

- Flow 1 ingress (mean 7.20 Mbit/s)
- Flow 1 egress (mean 7.20 Mbit/s)
- Flow 2 ingress (mean 6.83 Mbit/s)
- Flow 2 egress (mean 6.83 Mbit/s)
- Flow 3 ingress (mean 6.47 Mbit/s)
- Flow 3 egress (mean 6.47 Mbit/s)

![Graph of per-packet round-trip delay vs time](chart2)

- Flow 1 (95th percentile 51.07 ms)
- Flow 2 (95th percentile 50.76 ms)
- Flow 3 (95th percentile 52.38 ms)
Run 2: Statistics of Sprout

Start at: 2018-07-05 19:00:59
End at: 2018-07-05 19:01:29
Local clock offset: 0.019 ms
Remote clock offset: 0.056 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 52.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 51.644 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 53.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 53.718 ms
Loss rate: 0.00%
Run 3: Statistics of Sprout

Start at: 2018-07-05 19:26:19
End at: 2018-07-05 19:26:49
Local clock offset: -0.11 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.03 Mbit/s
95th percentile per-packet one-way delay: 53.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.66 Mbit/s
95th percentile per-packet one-way delay: 53.589 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.17 Mbit/s
95th percentile per-packet one-way delay: 51.612 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 53.468 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2018-07-05 19:50:58
End at: 2018-07-05 19:51:29
Local clock offset: -0.065 ms
Remote clock offset: 0.188 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.42 Mbit/s
95th percentile per-packet one-way delay: 53.279 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 53.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.45 Mbit/s
95th percentile per-packet one-way delay: 53.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 53.313 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 6.15 Mbps/s)
- Flow 1 egress (mean 6.15 Mbps/s)
- Flow 2 ingress (mean 7.45 Mbps/s)
- Flow 2 egress (mean 7.45 Mbps/s)
- Flow 3 ingress (mean 7.02 Mbps/s)
- Flow 3 egress (mean 7.02 Mbps/s)

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

- Flow 1 (95th percentile 53.26 ms)
- Flow 2 (95th percentile 53.29 ms)
- Flow 3 (95th percentile 53.31 ms)
Run 5: Statistics of Sprout

Start at: 2018-07-05 20:15:31
End at: 2018-07-05 20:16:01
Local clock offset: 0.219 ms
Remote clock offset: 1.189 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.96 Mbit/s
  95th percentile per-packet one-way delay: 54.151 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.23 Mbit/s
  95th percentile per-packet one-way delay: 54.400 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.99 Mbit/s
  95th percentile per-packet one-way delay: 54.102 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 7.34 Mbit/s
  95th percentile per-packet one-way delay: 54.133 ms
  Loss rate: 0.00%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

Start at: 2018-07-05 20:41:00
End at: 2018-07-05 20:41:30
Local clock offset: -0.274 ms
Remote clock offset: -1.306 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.55 Mbit/s
95th percentile per-packet one-way delay: 50.282 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 50.116 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.08 Mbit/s
95th percentile per-packet one-way delay: 52.199 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 50.332 ms
Loss rate: 0.00%
Run 6: Report of Sprout — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 7.20 Mbit/s)  Flow 1 egress (mean 7.20 Mbit/s)
Flow 2 ingress (mean 6.07 Mbit/s)  Flow 2 egress (mean 6.06 Mbit/s)
Flow 3 ingress (mean 7.03 Mbit/s)  Flow 3 egress (mean 7.03 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 50.12 ms)  Flow 2 (95th percentile 52.20 ms)  Flow 3 (95th percentile 50.33 ms)
Run 7: Statistics of Sprout

Start at: 2018-07-05 21:05:58
End at: 2018-07-05 21:06:28
Local clock offset: -0.023 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 51.372 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.86 Mbit/s
95th percentile per-packet one-way delay: 51.364 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 51.298 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 53.193 ms
Loss rate: 0.00%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Start at: 2018-07-05 21:30:49
End at: 2018-07-05 21:31:19
Local clock offset: 0.099 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.07 Mbit/s
  95th percentile per-packet one-way delay: 52.966 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.44 Mbit/s
  95th percentile per-packet one-way delay: 52.957 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 6.35 Mbit/s
  95th percentile per-packet one-way delay: 53.245 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 7.31 Mbit/s
  95th percentile per-packet one-way delay: 50.825 ms
  Loss rate: 0.00%
Run 8: Report of Sprout — Data Link

![Throughput (Mbps/s) vs. Time (s)](chart1)

- Flow 1 ingress (mean 6.44 Mbps/s)
- Flow 1 egress (mean 6.44 Mbps/s)
- Flow 2 ingress (mean 6.35 Mbps/s)
- Flow 2 egress (mean 6.35 Mbps/s)
- Flow 3 ingress (mean 7.31 Mbps/s)
- Flow 3 egress (mean 7.31 Mbps/s)

![Per packet one way delay (ms)](chart2)

- Flow 1 (95th percentile 52.96 ms)
- Flow 2 (95th percentile 53.24 ms)
- Flow 3 (95th percentile 50.83 ms)
Run 9: Statistics of Sprout

End at: 2018-07-05 21:56:12
Local clock offset: -0.016 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.19 Mbit/s
95th percentile per-packet one-way delay: 52.213 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 51.391 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 53.089 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 51.937 ms
Loss rate: 0.00%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

Start at: 2018-07-05 22:20:50
Local clock offset: 0.087 ms
Remote clock offset: -0.277 ms

# Below is generated by plot.py at 2018-07-06 01:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.76 Mbit/s
95th percentile per-packet one-way delay: 51.194 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.56 Mbit/s
95th percentile per-packet one-way delay: 51.052 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 52.615 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 53.419 ms
Loss rate: 0.00%
Run 10: Report of Sprout — Data Link

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 6.56 Mbps/s)  Flow 1 egress (mean 6.56 Mbps/s)
Flow 2 ingress (mean 7.32 Mbps/s)  Flow 2 egress (mean 7.32 Mbps/s)
Flow 3 ingress (mean 7.09 Mbps/s)  Flow 3 egress (mean 7.09 Mbps/s)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 51.05 ms)  Flow 2 (95th percentile 52.62 ms)  Flow 3 (95th percentile 53.42 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-05 18:41:03
End at: 2018-07-05 18:41:33
Local clock offset: -0.049 ms
Remote clock offset: -0.145 ms

# Below is generated by plot.py at 2018-07-06 01:05:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.10 Mbit/s
95th percentile per-packet one-way delay: 53.232 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.17 Mbit/s
95th percentile per-packet one-way delay: 53.674 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 78.15 Mbit/s
95th percentile per-packet one-way delay: 53.131 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 249.15 Mbit/s
95th percentile per-packet one-way delay: 50.545 ms
Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-05 19:05:45
End at: 2018-07-05 19:06:15
Local clock offset: 0.133 ms
Remote clock offset: 0.051 ms

# Below is generated by plot.py at 2018-07-06 01:12:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 342.99 Mbit/s
  95th percentile per-packet one-way delay: 50.662 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 249.69 Mbit/s
  95th percentile per-packet one-way delay: 50.651 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 12.64 Mbit/s
  95th percentile per-packet one-way delay: 53.563 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 255.61 Mbit/s
  95th percentile per-packet one-way delay: 50.658 ms
  Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-05 19:30:49
End at: 2018-07-05 19:31:19
Local clock offset: -0.248 ms
Remote clock offset: -1.265 ms

# Below is generated by plot.py at 2018-07-06 01:12:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 52.693 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 16.04 Mbit/s
95th percentile per-packet one-way delay: 52.708 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 96.42 Mbit/s
95th percentile per-packet one-way delay: 52.683 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 52.525 ms
Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link

![Graph showing throughputs and one-way delay for different flows.]

- **Flow 1 ingress (mean 16.04 Mbit/s)**
- **Flow 1 egress (mean 16.04 Mbit/s)**
- **Flow 2 ingress (mean 96.41 Mbit/s)**
- **Flow 2 egress (mean 96.42 Mbit/s)**
- **Flow 3 ingress (mean 11.41 Mbit/s)**
- **Flow 3 egress (mean 11.41 Mbit/s)**

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

- **Flow 1 (95th percentile 52.71 ms)**
- **Flow 2 (95th percentile 52.68 ms)**
- **Flow 3 (95th percentile 52.52 ms)**

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Run 4: Statistics of TaoVA-100x

End at: 2018-07-05 19:56:12
Local clock offset: -0.017 ms
Remote clock offset: -0.23 ms

# Below is generated by plot.py at 2018-07-06 01:12:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 67.91 Mbit/s
  95th percentile per-packet one-way delay: 52.898 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 13.82 Mbit/s
  95th percentile per-packet one-way delay: 52.926 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 49.14 Mbit/s
  95th percentile per-packet one-way delay: 53.114 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 153.99 Mbit/s
  95th percentile per-packet one-way delay: 50.617 ms
  Loss rate: 0.00%
Run 4: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 13.82 Mbps)
- Flow 1 egress (mean 13.82 Mbps)
- Flow 2 ingress (mean 49.13 Mbps)
- Flow 2 egress (mean 49.14 Mbps)
- Flow 3 ingress (mean 154.00 Mbps)
- Flow 3 egress (mean 153.99 Mbps)

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

- Flow 1 (95th percentile 52.93 ms)
- Flow 2 (95th percentile 53.11 ms)
- Flow 3 (95th percentile 50.62 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-05 20:20:25
End at: 2018-07-05 20:20:55
Local clock offset: -0.062 ms
Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 386.86 Mbit/s
  95th percentile per-packet one-way delay: 53.010 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 195.09 Mbit/s
  95th percentile per-packet one-way delay: 53.000 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 171.61 Mbit/s
  95th percentile per-packet one-way delay: 53.028 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 233.29 Mbit/s
  95th percentile per-packet one-way delay: 51.889 ms
  Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 195.11 Mbps)
- Flow 1 egress (mean 195.09 Mbps)
- Flow 2 ingress (mean 171.64 Mbps)
- Flow 2 egress (mean 171.61 Mbps)
- Flow 3 ingress (mean 233.28 Mbps)
- Flow 3 egress (mean 233.29 Mbps)

**Packet delay (ms):**
- Flow 1 (95th percentile 53.00 ms)
- Flow 2 (95th percentile 53.03 ms)
- Flow 3 (95th percentile 51.89 ms)
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-05 20:45:43
End at: 2018-07-05 20:46:13
Local clock offset: ~0.025 ms
Remote clock offset: 1.441 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
    -- Total of 3 flows:
    Average throughput: 265.49 Mbit/s
    95th percentile per-packet one-way delay: 52.662 ms
    Loss rate: 0.00%
    -- Flow 1:
    Average throughput: 244.09 Mbit/s
    95th percentile per-packet one-way delay: 51.857 ms
    Loss rate: 0.00%
    -- Flow 2:
    Average throughput: 23.06 Mbit/s
    95th percentile per-packet one-way delay: 54.880 ms
    Loss rate: 0.00%
    -- Flow 3:
    Average throughput: 18.27 Mbit/s
    95th percentile per-packet one-way delay: 54.931 ms
    Loss rate: 0.01%
Run 6: Report of TaoVA-100x — Data Link

---

![Graph of data link throughput and delay over time with legend indicating mean throughputs for each flow.]
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-05 21:10:47
End at: 2018-07-05 21:11:17
Local clock offset: -0.048 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.13 Mbit/s
95th percentile per-packet one-way delay: 53.574 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.94 Mbit/s
95th percentile per-packet one-way delay: 53.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.85 Mbit/s
95th percentile per-packet one-way delay: 53.972 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 256.03 Mbit/s
95th percentile per-packet one-way delay: 50.662 ms
Loss rate: 0.00%
Run 7: Report of TaoVA-100x — Data Link

![Graph showing data link throughput and per-packet one-way delay over time for Flow 1, Flow 2, and Flow 3.](image)

- Flow 1 ingress (mean 31.94 Mbit/s)
- Flow 1 egress (mean 31.94 Mbit/s)
- Flow 2 ingress (mean 43.85 Mbit/s)
- Flow 2 egress (mean 43.85 Mbit/s)
- Flow 3 ingress (mean 256.02 Mbit/s)
- Flow 3 egress (mean 256.03 Mbit/s)

![Graph showing per-packet one-way delay for Flow 1, Flow 2, and Flow 3.](image)

- Flow 1 (95th percentile 53.28 ms)
- Flow 2 (95th percentile 53.97 ms)
- Flow 3 (95th percentile 59.66 ms)
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-05 21:35:33
End at: 2018-07-05 21:36:03
Local clock offset: 0.061 ms
Remote clock offset: -0.159 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.04 Mbit/s
95th percentile per-packet one-way delay: 53.042 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 52.781 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 53.114 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.92 Mbit/s
95th percentile per-packet one-way delay: 53.011 ms
Loss rate: 0.00%
Run 8: Report of TaoVA-100x — Data Link

![Graph](image1)

![Graph](image2)
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-05 22:00:33
End at: 2018-07-05 22:01:03
Local clock offset: -0.121 ms
Remote clock offset: -0.226 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.49 Mbit/s
95th percentile per-packet one-way delay: 53.231 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 52.867 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 53.318 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 252.37 Mbit/s
95th percentile per-packet one-way delay: 50.624 ms
Loss rate: 0.00%
Run 9: Report of TaoVA-100x — Data Link
Run 10: Statistics of TaoVA-100x

Local clock offset: -0.082 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 274.62 Mbit/s
95th percentile per-packet one-way delay: 53.265 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 111.84 Mbit/s
95th percentile per-packet one-way delay: 53.404 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.57 Mbit/s
95th percentile per-packet one-way delay: 50.694 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.71 Mbit/s
95th percentile per-packet one-way delay: 50.692 ms
Loss rate: 0.00%
Run 10: Report of TaoVA-100x — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 111.83 Mbps)
Flow 1 egress (mean 111.84 Mbps)
Flow 2 ingress (mean 253.57 Mbps)
Flow 2 egress (mean 253.57 Mbps)
Flow 3 ingress (mean 248.69 Mbps)
Flow 3 egress (mean 248.71 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 53.40 ms)
Flow 2 (95th percentile 50.69 ms)
Flow 3 (95th percentile 50.69 ms)
Run 1: Statistics of TCP Vegas

Start at: 2018-07-05 18:31:41
End at: 2018-07-05 18:32:11
Local clock offset: 0.081 ms
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2018-07-06 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.53 Mbit/s
95th percentile per-packet one-way delay: 53.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 131.95 Mbit/s
95th percentile per-packet one-way delay: 53.782 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.61 Mbit/s
95th percentile per-packet one-way delay: 51.223 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 125.22 Mbit/s
95th percentile per-packet one-way delay: 51.036 ms
Loss rate: 0.00%
Run 1: Report of TCP Vegas — Data Link

![Graph of Throughput](attachment:image1.png)

![Graph of Per-packet one-way delay](attachment:image2.png)
Run 2: Statistics of TCP Vegas

Start at: 2018-07-05 18:56:15
End at: 2018-07-05 18:56:46
Local clock offset: -0.212 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 172.58 Mbit/s
  95th percentile per-packet one-way delay: 57.117 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 70.69 Mbit/s
  95th percentile per-packet one-way delay: 55.302 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 150.25 Mbit/s
  95th percentile per-packet one-way delay: 57.604 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 5.77 Mbit/s
  95th percentile per-packet one-way delay: 51.970 ms
  Loss rate: 0.08%
Run 2: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 70.68 Mbit/s)**
- **Flow 1 egress (mean 70.69 Mbit/s)**
- **Flow 2 ingress (mean 150.25 Mbit/s)**
- **Flow 2 egress (mean 150.25 Mbit/s)**
- **Flow 3 ingress (mean 5.77 Mbit/s)**
- **Flow 3 egress (mean 5.77 Mbit/s)**

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

- **Flow 1 (95th percentile 55.30 ms)**
- **Flow 2 (95th percentile 57.60 ms)**
- **Flow 3 (95th percentile 51.97 ms)**
Run 3: Statistics of TCP Vegas

End at: 2018-07-05 19:21:57
Local clock offset: 0.028 ms
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.30 Mbit/s
95th percentile per-packet one-way delay: 50.925 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.60 Mbit/s
95th percentile per-packet one-way delay: 51.059 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 152.84 Mbit/s
95th percentile per-packet one-way delay: 50.700 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.94 Mbit/s
95th percentile per-packet one-way delay: 50.944 ms
Loss rate: 0.00%
Run 3: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 93.59 Mbit/s), egress (mean 93.60 Mbit/s)
- Flow 2 ingress (mean 152.81 Mbit/s), egress (mean 152.84 Mbit/s)
- Flow 3 ingress (mean 65.92 Mbit/s), egress (mean 65.94 Mbit/s)
Run 4: Statistics of TCP Vegas

Start at: 2018-07-05 19:46:09
End at: 2018-07-05 19:46:39
Local clock offset: -0.17 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.74 Mbit/s
95th percentile per-packet one-way delay: 51.282 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 89.59 Mbit/s
95th percentile per-packet one-way delay: 51.272 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 86.00 Mbit/s
95th percentile per-packet one-way delay: 51.297 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 51.153 ms
Loss rate: 0.10%
Run 4: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 89.59 Mbit/s)
- Flow 1 egress (mean 89.59 Mbit/s)
- Flow 2 ingress (mean 85.98 Mbit/s)
- Flow 2 egress (mean 86.00 Mbit/s)
- Flow 3 ingress (mean 6.11 Mbit/s)
- Flow 3 egress (mean 6.11 Mbit/s)

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

- Flow 1 (95th percentile 51.27 ms)
- Flow 2 (95th percentile 51.30 ms)
- Flow 3 (95th percentile 51.15 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-07-05 20:10:48
End at: 2018-07-05 20:11:18
Local clock offset: -0.234 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.28 Mbit/s
95th percentile per-packet one-way delay: 52.057 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.27 Mbit/s
95th percentile per-packet one-way delay: 52.381 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 51.725 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.30 Mbit/s
95th percentile per-packet one-way delay: 52.303 ms
Loss rate: 0.00%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-07-05 20:36:18
End at: 2018-07-05 20:36:48
Local clock offset: -0.156 ms
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.93 Mbit/s
95th percentile per-packet one-way delay: 51.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 101.00 Mbit/s
95th percentile per-packet one-way delay: 51.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.57 Mbit/s
95th percentile per-packet one-way delay: 51.267 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.42 Mbit/s
95th percentile per-packet one-way delay: 51.411 ms
Loss rate: 0.00%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-07-05 21:01:19
End at: 2018-07-05 21:01:49
Local clock offset: -0.267 ms
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.91 Mbit/s
95th percentile per-packet one-way delay: 52.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 106.03 Mbit/s
95th percentile per-packet one-way delay: 51.918 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.66 Mbit/s
95th percentile per-packet one-way delay: 53.058 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 122.89 Mbit/s
95th percentile per-packet one-way delay: 52.049 ms
Loss rate: 0.00%
Run 7: Report of TCP Vegas — Data Link
Run 8: Statistics of TCP Vegas

Start at: 2018-07-05 21:26:04
End at: 2018-07-05 21:26:34
Local clock offset: 0.123 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.72 Mbit/s
95th percentile per-packet one-way delay: 51.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.49 Mbit/s
95th percentile per-packet one-way delay: 51.257 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 157.96 Mbit/s
95th percentile per-packet one-way delay: 50.915 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 50.595 ms
Loss rate: 0.02%
Run 8: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 76.48 Mbit/s)
- Flow 1 egress (mean 76.49 Mbit/s)
- Flow 2 ingress (mean 157.94 Mbit/s)
- Flow 2 egress (mean 157.96 Mbit/s)
- Flow 3 ingress (mean 6.38 Mbit/s)
- Flow 3 egress (mean 6.38 Mbit/s)

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

- Flow 1 (95th percentile 51.26 ms)
- Flow 2 (95th percentile 50.91 ms)
- Flow 3 (95th percentile 50.59 ms)
Run 9: Statistics of TCP Vegas

End at: 2018-07-05 21:51:25
Local clock offset: 0.214 ms
Remote clock offset: 0.07 ms

# Below is generated by plot.py at 2018-07-06 01:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 169.69 Mbit/s
95th percentile per-packet one-way delay: 52.128 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 53.219 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 73.60 Mbit/s
95th percentile per-packet one-way delay: 51.194 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.34 Mbit/s
95th percentile per-packet one-way delay: 51.169 ms
Loss rate: 0.00%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

Start at: 2018-07-05 22:16:02
End at: 2018-07-05 22:16:32
Local clock offset: -0.184 ms
Remote clock offset: 0.177 ms

# Below is generated by plot.py at 2018-07-06 01:15:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.56 Mbit/s
95th percentile per-packet one-way delay: 52.310 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 126.70 Mbit/s
95th percentile per-packet one-way delay: 52.715 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 145.31 Mbit/s
95th percentile per-packet one-way delay: 52.019 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: 51.980 ms
Loss rate: 0.00%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-07-05 18:45:03
End at: 2018-07-05 18:45:33
Local clock offset: 0.035 ms
Remote clock offset: -1.314 ms

# Below is generated by plot.py at 2018-07-06 01:18:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 356.70 Mbit/s
  95th percentile per-packet one-way delay: 153.390 ms
  Loss rate: 0.92%
-- Flow 1:
  Average throughput: 210.38 Mbit/s
  95th percentile per-packet one-way delay: 156.265 ms
  Loss rate: 0.78%
-- Flow 2:
  Average throughput: 182.05 Mbit/s
  95th percentile per-packet one-way delay: 146.161 ms
  Loss rate: 0.83%
-- Flow 3:
  Average throughput: 78.37 Mbit/s
  95th percentile per-packet one-way delay: 164.608 ms
  Loss rate: 2.47%
Run 1: Report of Verus — Data Link

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**Throughput (Mb/s)**

**Flow 1 ingress** (mean 212.84 Mb/s)  
**Flow 1 egress** (mean 210.38 Mb/s)  
**Flow 2 ingress** (mean 183.59 Mb/s)  
**Flow 2 egress** (mean 182.05 Mb/s)  
**Flow 3 ingress** (mean 80.36 Mb/s)  
**Flow 3 egress** (mean 78.37 Mb/s)

---

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

**Flow 1** (95th percentile 156.26 ms)  
**Flow 2** (95th percentile 146.16 ms)  
**Flow 3** (95th percentile 164.61 ms)
Run 2: Statistics of Verus

Start at: 2018-07-05 19:10:06
End at: 2018-07-05 19:10:36
Local clock offset: -0.02 ms
Remote clock offset: -0.455 ms

# Below is generated by plot.py at 2018-07-06 01:18:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 356.84 Mbit/s
  95th percentile per-packet one-way delay: 179.087 ms
  Loss rate: 1.24%
-- Flow 1:
  Average throughput: 245.90 Mbit/s
  95th percentile per-packet one-way delay: 183.198 ms
  Loss rate: 0.56%
-- Flow 2:
  Average throughput: 139.20 Mbit/s
  95th percentile per-packet one-way delay: 168.122 ms
  Loss rate: 2.77%
-- Flow 3:
  Average throughput: 56.44 Mbit/s
  95th percentile per-packet one-way delay: 147.068 ms
  Loss rate: 2.39%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-07-05 19:34:42
End at: 2018-07-05 19:35:12
Local clock offset: 0.012 ms
Remote clock offset: -0.313 ms

# Below is generated by plot.py at 2018-07-06 01:19:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.49 Mbit/s
95th percentile per-packet one-way delay: 88.787 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.09 Mbit/s
95th percentile per-packet one-way delay: 93.381 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 173.10 Mbit/s
95th percentile per-packet one-way delay: 85.492 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 118.55 Mbit/s
95th percentile per-packet one-way delay: 82.368 ms
Loss rate: 0.00%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-07-05 19:59:37
End at: 2018-07-05 20:00:07
Local clock offset: -0.147 ms
Remote clock offset: -0.254 ms

# Below is generated by plot.py at 2018-07-06 01:20:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.39 Mbit/s
95th percentile per-packet one-way delay: 177.563 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 269.86 Mbit/s
95th percentile per-packet one-way delay: 179.654 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 115.77 Mbit/s
95th percentile per-packet one-way delay: 164.339 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 63.93 Mbit/s
95th percentile per-packet one-way delay: 170.363 ms
Loss rate: 1.01%
Run 4: Report of Verus — Data Link

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

- Flow 1 ingress (mean 273.21 Mbit/s)
- Flow 1 egress (mean 269.86 Mbit/s)
- Flow 2 ingress (mean 118.30 Mbit/s)
- Flow 2 egress (mean 115.77 Mbit/s)
- Flow 3 ingress (mean 64.38 Mbit/s)
- Flow 3 egress (mean 63.93 Mbit/s)
Run 5: Statistics of Verus

Start at: 2018-07-05 20:24:52  
End at: 2018-07-05 20:25:22  
Local clock offset: 0.009 ms  
Remote clock offset: 0.113 ms

# Below is generated by plot.py at 2018-07-06 01:21:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 383.28 Mbit/s  
95th percentile per-packet one-way delay: 135.612 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 226.72 Mbit/s  
95th percentile per-packet one-way delay: 133.505 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 175.32 Mbit/s  
95th percentile per-packet one-way delay: 146.667 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 122.10 Mbit/s  
95th percentile per-packet one-way delay: 121.882 ms  
Loss rate: 0.00%
Run 5: Report of Verus — Data Link

![Graph showing data link performance metrics](image)

The graphs depict the throughput and per-packet one-way delay over time for different data flows. The throughput graphs illustrate the mean data rates for each flow, with the following statistics:

- Flow 1 ingress (mean 227.03 Mbit/s)
- Flow 1 egress (mean 226.72 Mbit/s)
- Flow 2 ingress (mean 175.55 Mbit/s)
- Flow 2 egress (mean 175.32 Mbit/s)
- Flow 3 ingress (mean 122.49 Mbit/s)
- Flow 3 egress (mean 122.16 Mbit/s)

The per-packet one-way delay graphs show the 95th percentile delay for each flow:

- Flow 1 (95th percentile 133.50 ms)
- Flow 2 (95th percentile 146.67 ms)
- Flow 3 (95th percentile 121.88 ms)
Run 6: Statistics of Verus

Start at: 2018-07-05 20:49:54
End at: 2018-07-05 20:50:24
Local clock offset: -0.062 ms
Remote clock offset: -1.367 ms

# Below is generated by plot.py at 2018-07-06 01:21:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.08 Mbit/s
95th percentile per-packet one-way delay: 151.959 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 268.11 Mbit/s
95th percentile per-packet one-way delay: 157.674 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 82.77 Mbit/s
95th percentile per-packet one-way delay: 124.178 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 78.57 Mbit/s
95th percentile per-packet one-way delay: 101.310 ms
Loss rate: 0.00%
Run 7: Statistics of Verus

Start at: 2018-07-05 21:14:48
End at: 2018-07-05 21:15:18
Local clock offset: -0.05 ms
Remote clock offset: 0.968 ms

# Below is generated by plot.py at 2018-07-06 01:21:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 370.62 Mbit/s
  95th percentile per-packet one-way delay: 161.449 ms
  Loss rate: 0.34%
-- Flow 1:
  Average throughput: 213.16 Mbit/s
  95th percentile per-packet one-way delay: 132.139 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 191.63 Mbit/s
  95th percentile per-packet one-way delay: 176.647 ms
  Loss rate: 0.64%
-- Flow 3:
  Average throughput: 94.48 Mbit/s
  95th percentile per-packet one-way delay: 149.795 ms
  Loss rate: 0.65%
Run 7: Report of Verus — Data Link

[Graphs showing throughput and packet delivery delay over time, with data points indicating the mean for different flows.]
Run 8: Statistics of Verus

Local clock offset: -0.098 ms
Remote clock offset: 0.217 ms

# Below is generated by plot.py at 2018-07-06 01:23:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.07 Mbit/s
95th percentile per-packet one-way delay: 157.066 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 229.87 Mbit/s
95th percentile per-packet one-way delay: 157.106 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 198.86 Mbit/s
95th percentile per-packet one-way delay: 158.641 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 144.423 ms
Loss rate: 0.49%
Run 8: Report of Verus — Data Link
Run 9: Statistics of Verus

Start at: 2018-07-05 22:04:32
End at: 2018-07-05 22:05:02
Local clock offset: -0.085 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2018-07-06 01:24:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.43 Mbit/s
95th percentile per-packet one-way delay: 120.552 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 205.57 Mbit/s
95th percentile per-packet one-way delay: 112.667 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 201.25 Mbit/s
95th percentile per-packet one-way delay: 129.583 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 117.75 Mbit/s
95th percentile per-packet one-way delay: 115.747 ms
Loss rate: 0.27%
Run 9: Report of Verus — Data Link

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

- **Throughput** (Mbps):
  - Flow 1 ingress (mean 205.93 Mbps)
  - Flow 1 egress (mean 205.57 Mbps)
  - Flow 2 ingress (mean 191.82 Mbps)
  - Flow 2 egress (mean 201.25 Mbps)
  - Flow 3 ingress (mean 118.18 Mbps)
  - Flow 3 egress (mean 117.75 Mbps)

- **Per-packet one-way delay (ms)**:
  - Flow 1 (95th percentile 112.67 ms)
  - Flow 2 (95th percentile 129.58 ms)
  - Flow 3 (95th percentile 115.75 ms)
Run 10: Statistics of Verus

End at: 2018-07-05 22:30:11  
Local clock offset: -0.122 ms  
Remote clock offset: 1.244 ms

# Below is generated by plot.py at 2018-07-06 01:24:44  
# Datalink statistics

-- Total of 3 flows:
Average throughput: 362.14 Mbit/s  
95th percentile per-packet one-way delay: 94.336 ms  
Loss rate: 0.11%

-- Flow 1:
Average throughput: 217.89 Mbit/s  
95th percentile per-packet one-way delay: 89.972 ms  
Loss rate: 0.08%

-- Flow 2:
Average throughput: 155.59 Mbit/s  
95th percentile per-packet one-way delay: 94.420 ms  
Loss rate: 0.20%

-- Flow 3:
Average throughput: 123.52 Mbit/s  
95th percentile per-packet one-way delay: 120.625 ms  
Loss rate: 0.07%
Run 10: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 217.79 Mbit/s)
- Flow 1 egress (mean 217.99 Mbit/s)
- Flow 2 ingress (mean 155.84 Mbit/s)
- Flow 2 egress (mean 155.59 Mbit/s)
- Flow 3 ingress (mean 123.98 Mbit/s)
- Flow 3 egress (mean 123.52 Mbit/s)

![Graph showing packet delay distribution.]

Legend:
- Flow 1 (95th percentile 89.97 ms)
- Flow 2 (95th percentile 94.42 ms)
- Flow 3 (95th percentile 120.62 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-05 18:47:48
End at: 2018-07-05 18:48:18
Local clock offset: -0.179 ms
Remote clock offset: -0.226 ms

# Below is generated by plot.py at 2018-07-06 01:28:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 494.59 Mbit/s
95th percentile per-packet one-way delay: 53.660 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 308.69 Mbit/s
95th percentile per-packet one-way delay: 53.679 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 258.25 Mbit/s
95th percentile per-packet one-way delay: 53.648 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 50.068 ms
Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 308.68 Mbit/s)
- Flow 1 egress (mean 308.69 Mbit/s)
- Flow 2 ingress (mean 257.93 Mbit/s)
- Flow 2 egress (mean 258.25 Mbit/s)
- Flow 3 ingress (mean 42.70 Mbit/s)
- Flow 3 egress (mean 42.70 Mbit/s)

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

- Flow 1 (95th percentile 53.68 ms)
- Flow 2 (95th percentile 53.65 ms)
- Flow 3 (95th percentile 50.07 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-05 19:12:51
End at: 2018-07-05 19:13:21
Local clock offset: -0.305 ms
Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-07-06 01:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.76 Mbit/s
95th percentile per-packet one-way delay: 53.906 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 317.27 Mbit/s
95th percentile per-packet one-way delay: 53.978 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 263.68 Mbit/s
95th percentile per-packet one-way delay: 53.515 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 50.659 ms
Loss rate: 0.00%
Run 2: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 317.27 Mbit/s)
- Flow 1 egress (mean 317.27 Mbit/s)
- Flow 2 ingress (mean 263.72 Mbit/s)
- Flow 2 egress (mean 263.68 Mbit/s)
- Flow 3 ingress (mean 45.90 Mbit/s)
- Flow 3 egress (mean 45.80 Mbit/s)

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

- Flow 1 (95th percentile 53.98 ms)
- Flow 2 (95th percentile 53.52 ms)
- Flow 3 (95th percentile 50.66 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-05 19:37:30
End at: 2018-07-05 19:38:00
Local clock offset: 0.073 ms
Remote clock offset: -0.145 ms

# Below is generated by plot.py at 2018-07-06 01:30:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 519.19 Mbit/s
95th percentile per-packet one-way delay: 53.505 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 328.37 Mbit/s
95th percentile per-packet one-way delay: 53.543 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 241.70 Mbit/s
95th percentile per-packet one-way delay: 53.463 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 53.398 ms
Loss rate: 0.02%
Run 3: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 328.33 Mbit/s)
- Flow 1 egress (mean 328.37 Mbit/s)
- Flow 2 ingress (mean 241.70 Mbit/s)
- Flow 2 egress (mean 241.70 Mbit/s)
- Flow 3 ingress (mean 91.31 Mbit/s)
- Flow 3 egress (mean 91.29 Mbit/s)
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-05 20:02:24
End at: 2018-07-05 20:02:54
Local clock offset: 0.017 ms
Remote clock offset: 0.15 ms

# Below is generated by plot.py at 2018-07-06 01:30:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 487.67 Mbit/s
95th percentile per-packet one-way delay: 53.619 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 319.12 Mbit/s
95th percentile per-packet one-way delay: 53.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 238.38 Mbit/s
95th percentile per-packet one-way delay: 53.279 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.57 Mbit/s
95th percentile per-packet one-way delay: 53.182 ms
Loss rate: 0.02%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

End at: 2018-07-05 20:28:11
Local clock offset: -0.045 ms
Remote clock offset: -0.205 ms

# Below is generated by plot.py at 2018-07-06 01:30:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.80 Mbit/s
95th percentile per-packet one-way delay: 53.029 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 267.88 Mbit/s
95th percentile per-packet one-way delay: 53.041 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 245.03 Mbit/s
95th percentile per-packet one-way delay: 50.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.70 Mbit/s
95th percentile per-packet one-way delay: 53.343 ms
Loss rate: 0.02%
Run 5: Report of PCC-Vivace — Data Link

[Graphs showing throughput and packet delay for different flows]

Flow 1 ingress (mean 267.88 Mbit/s)  Flow 1 egress (mean 267.88 Mbit/s)
Flow 2 ingress (mean 245.02 Mbit/s)  Flow 2 egress (mean 245.03 Mbit/s)
Flow 3 ingress (mean 51.73 Mbit/s)  Flow 3 egress (mean 51.70 Mbit/s)

Flow 1 (95th percentile 53.04 ms)  Flow 2 (95th percentile 50.44 ms)  Flow 3 (95th percentile 53.34 ms)
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-05 20:52:41
End at: 2018-07-05 20:53:11
Local clock offset: 0.06 ms
Remote clock offset: -0.297 ms

# Below is generated by plot.py at 2018-07-06 01:31:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.89 Mbit/s
95th percentile per-packet one-way delay: 53.201 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 315.12 Mbit/s
95th percentile per-packet one-way delay: 50.474 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 261.63 Mbit/s
95th percentile per-packet one-way delay: 53.563 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 50.173 ms
Loss rate: 0.00%
Run 6: Report of PCC-Vivace — Data Link

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

Legend:
- Flow 1 ingress (mean 315.12 Mbit/s)
- Flow 1 egress (mean 315.12 Mbit/s)
- Flow 2 ingress (mean 261.62 Mbit/s)
- Flow 2 egress (mean 261.63 Mbit/s)
- Flow 3 ingress (mean 32.81 Mbit/s)
- Flow 3 egress (mean 32.81 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 50.47 ms)
- Flow 2 (95th percentile 53.56 ms)
- Flow 3 (95th percentile 50.17 ms)
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-05 21:17:36
End at: 2018-07-05 21:18:06
Local clock offset: 0.196 ms
Remote clock offset: 0.118 ms

# Below is generated by plot.py at 2018-07-06 01:32:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.08 Mbit/s
95th percentile per-packet one-way delay: 53.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 311.23 Mbit/s
95th percentile per-packet one-way delay: 53.521 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.77 Mbit/s
95th percentile per-packet one-way delay: 53.924 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.29 Mbit/s
95th percentile per-packet one-way delay: 53.391 ms
Loss rate: 0.00%
Run 7: Report of PCC-Vivace — Data Link

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

Flow 1 ingress (mean 311.20 Mbit/s), Flow 1 egress (mean 311.23 Mbit/s), Flow 2 ingress (mean 234.76 Mbit/s), Flow 2 egress (mean 234.77 Mbit/s), Flow 3 ingress (mean 90.29 Mbit/s), Flow 3 egress (mean 90.29 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 53.52 ms), Flow 2 (95th percentile 53.92 ms), Flow 3 (95th percentile 53.39 ms)
Run 8: Statistics of PCC-Vivace

End at: 2018-07-05 21:42:44
Local clock offset: -0.04 ms
Remote clock offset: 1.303 ms

# Below is generated by plot.py at 2018-07-06 01:32:30
# Datalink statistics

-- Total of 3 flows:
Average throughput: 520.27 Mbit/s
95th percentile per-packet one-way delay: 54.709 ms
Loss rate: 0.01%

-- Flow 1:
Average throughput: 318.53 Mbit/s
95th percentile per-packet one-way delay: 51.797 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 254.00 Mbit/s
95th percentile per-packet one-way delay: 55.040 ms
Loss rate: 0.01%

-- Flow 3:
Average throughput: 99.63 Mbit/s
95th percentile per-packet one-way delay: 54.810 ms
Loss rate: 0.02%
Run 8: Report of PCC-Vivace — Data Link

![Graphs showing data link performance metrics](image_url)

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 318.53 Mbps)
  - Flow 1 egress (mean 318.53 Mbps)
  - Flow 2 ingress (mean 254.00 Mbps)
  - Flow 2 egress (mean 254.00 Mbps)
  - Flow 3 ingress (mean 99.57 Mbps)
  - Flow 3 egress (mean 99.63 Mbps)

- **Per-packet round-trip delay (ms):**
  - Flow 1 (95th percentile 51.80 ms)
  - Flow 2 (95th percentile 55.04 ms)
  - Flow 3 (95th percentile 54.81 ms)
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-05 22:07:21
End at: 2018-07-05 22:07:51
Local clock offset: -0.103 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 580.76 Mbit/s
95th percentile per-packet one-way delay: 53.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 321.01 Mbit/s
95th percentile per-packet one-way delay: 50.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 329.94 Mbit/s
95th percentile per-packet one-way delay: 54.007 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 122.34 Mbit/s
95th percentile per-packet one-way delay: 50.934 ms
Loss rate: 0.00%
Run 9: Report of PCC-Vivace — Data Link

Graphs showing throughput and packet loss over time for different flows.
Run 10: Statistics of PCC-Vivace

End at: 2018-07-05 22:32:59
Local clock offset: -0.139 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 542.47 Mbit/s
95th percentile per-packet one-way delay: 53.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 314.02 Mbit/s
95th percentile per-packet one-way delay: 53.486 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 260.02 Mbit/s
95th percentile per-packet one-way delay: 50.468 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 168.45 Mbit/s
95th percentile per-packet one-way delay: 50.298 ms
Loss rate: 0.00%
Run 10: Report of PCC-Vivace — Data Link

Throughput (Mbit/s) vs. Time (s)

- Flow 1 ingress (mean 313.98 Mbit/s)
- Flow 1 egress (mean 314.02 Mbit/s)
- Flow 2 ingress (mean 260.02 Mbit/s)
- Flow 2 egress (mean 260.02 Mbit/s)
- Flow 3 ingress (mean 168.41 Mbit/s)
- Flow 3 egress (mean 168.45 Mbit/s)

Packet Delays (ms) vs. Time (s)

- Flow 1 (95th percentile 53.49 ms)
- Flow 2 (95th percentile 50.47 ms)
- Flow 3 (95th percentile 50.30 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-07-05 18:42:26
End at: 2018-07-05 18:42:56
Local clock offset: -0.047 ms
Remote clock offset: -0.244 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.28 Mbit/s
  95th percentile per-packet one-way delay: 53.136 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.23 Mbit/s
  95th percentile per-packet one-way delay: 53.162 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 50.484 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.61 Mbit/s
  95th percentile per-packet one-way delay: 50.412 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

![Graph showing throughput and delay over time]

- Flow 1 ingress (mean 2.23 Mbit/s)
- Flow 1 egress (mean 2.23 Mbit/s)
- Flow 2 ingress (mean 1.53 Mbit/s)
- Flow 2 egress (mean 1.53 Mbit/s)
- Flow 3 ingress (mean 0.61 Mbit/s)
- Flow 3 egress (mean 0.61 Mbit/s)

![Graph showing packet delay over time]

- Flow 1 (95th percentile 53.16 ms)
- Flow 2 (95th percentile 50.48 ms)
- Flow 3 (95th percentile 50.41 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-07-05 19:07:24
End at: 2018-07-05 19:07:54
Local clock offset: -0.097 ms
Remote clock offset: 1.323 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 55.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 55.195 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 55.202 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 54.897 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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

Start at: 2018-07-05 19:32:00
End at: 2018-07-05 19:32:30
Local clock offset: -0.26 ms
Remote clock offset: -1.354 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 52.675 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 52.684 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 52.687 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 49.506 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

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The figure above shows the throughput (Mbps) over time for different flows. The x-axis represents time in seconds, and the y-axis represents throughput in Mbps. The graph illustrates the performance of three different flows (Flow 1, Flow 2, and Flow 3) with different ingress and egress rates.

- **Flow 1**: Ingress (2.04 Mbps) and Egress (2.04 Mbps)
- **Flow 2**: Ingress (1.29 Mbps) and Egress (1.29 Mbps)
- **Flow 3**: Ingress (0.54 Mbps) and Egress (0.54 Mbps)

The second figure displays the per-packet one-way delay (ms) over time. The x-axis represents time in seconds, and the y-axis represents delay in milliseconds. The graph indicates the delay performance for the same flows:

- **Flow 1**: 95th percentile 52.68 ms
- **Flow 2**: 95th percentile 52.69 ms
- **Flow 3**: 95th percentile 49.51 ms

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Run 4: Statistics of WebRTC media

Start at: 2018-07-05 19:56:57
End at: 2018-07-05 19:57:27
Local clock offset: 0.161 ms
Remote clock offset: 1.354 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.83 Mbit/s
  95th percentile per-packet one-way delay: 54.811 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.03 Mbit/s
  95th percentile per-packet one-way delay: 54.832 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.31 Mbit/s
  95th percentile per-packet one-way delay: 51.821 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.52 Mbit/s
  95th percentile per-packet one-way delay: 54.466 ms
  Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Local clock offset: ~0.043 ms
Remote clock offset: ~0.036 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.82 Mbit/s
  95th percentile per-packet one-way delay: 53.961 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 53.451 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.29 Mbit/s
  95th percentile per-packet one-way delay: 54.007 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 50.776 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link
Run 6: Statistics of WebRTC media

Start at: 2018-07-05 20:47:15
End at: 2018-07-05 20:47:45
Local clock offset: 0.099 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.80 Mbit/s
  95th percentile per-packet one-way delay: 53.598 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.00 Mbit/s
  95th percentile per-packet one-way delay: 53.322 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.28 Mbit/s
  95th percentile per-packet one-way delay: 53.897 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.54 Mbit/s
  95th percentile per-packet one-way delay: 53.433 ms
  Loss rate: 0.00%
Run 6: Report of WebRTC media — Data Link

![Graph showing throughput over time for different flows]

- Flow 1 ingress (mean 2.00 Mbit/s)
- Flow 1 egress (mean 2.00 Mbit/s)
- Flow 2 ingress (mean 1.28 Mbit/s)
- Flow 2 egress (mean 1.28 Mbit/s)
- Flow 3 ingress (mean 0.54 Mbit/s)
- Flow 3 egress (mean 0.54 Mbit/s)

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

- Flow 1 (95th percentile 53.32 ms)
- Flow 2 (95th percentile 53.90 ms)
- Flow 3 (95th percentile 53.43 ms)
Run 7: Statistics of WebRTC media

Start at: 2018-07-05 21:12:07
End at: 2018-07-05 21:12:37
Local clock offset: -0.098 ms
Remote clock offset: 1.275 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 55.212 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 55.236 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 54.662 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 52.089 ms
Loss rate: 0.00%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-07-05 21:36:48
End at: 2018-07-05 21:37:18
Local clock offset: -0.104 ms
Remote clock offset: 1.276 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.84 Mbit/s
  95th percentile per-packet one-way delay: 55.089 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.05 Mbit/s
  95th percentile per-packet one-way delay: 55.118 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.28 Mbit/s
  95th percentile per-packet one-way delay: 54.815 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.53 Mbit/s
  95th percentile per-packet one-way delay: 54.724 ms
  Loss rate: 0.00%
Run 8: Report of WebRTC media — Data Link

**Graph 1:**
- Throughput (Mbps)
- Time (s)
- Lines represent:
  - Flow 1 ingress (mean 2.05 Mbps)
  - Flow 1 egress (mean 2.05 Mbps)
  - Flow 2 ingress (mean 1.28 Mbps)
  - Flow 2 egress (mean 1.28 Mbps)
  - Flow 3 ingress (mean 0.53 Mbps)
  - Flow 3 egress (mean 0.53 Mbps)

**Graph 2:**
- Per-packet one way delay (ms)
- Time (s)
- Points represent:
  - Flow 1 (95th percentile 55.12 ms)
  - Flow 2 (95th percentile 54.81 ms)
  - Flow 3 (95th percentile 54.72 ms)
Run 9: Statistics of WebRTC media

Start at: 2018-07-05 22:01:52
End at: 2018-07-05 22:02:22
Local clock offset: -0.013 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 53.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 53.665 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 50.551 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 53.662 ms
Loss rate: 0.00%
Run 9: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 2.09 Mbps)
Flow 1 egress (mean 2.09 Mbps)
Flow 2 ingress (mean 1.31 Mbps)
Flow 2 egress (mean 1.31 Mbps)
Flow 3 ingress (mean 0.54 Mbps)
Flow 3 egress (mean 0.54 Mbps)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 53.66 ms)
Flow 2 (95th percentile 50.55 ms)
Flow 3 (95th percentile 53.66 ms)
Run 10: Statistics of WebRTC media

Start at: 2018-07-05 22:27:01
Local clock offset: -0.017 ms
Remote clock offset: 1.185 ms

# Below is generated by plot.py at 2018-07-06 01:33:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 54.883 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 54.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 54.593 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 54.649 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link