Pantheon Report

Data path: India on em1 (remote) ➔ AWS India 1 on ens5 (local).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
brANCH: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third Party/fillp @ d6a1459332fcee56963885d7eba17e6a32d4519
third Party/fillp-sheep @ 0e6b722943babcd2b090d2c64fcd45e12e923f9
third Party/genericCC @ d015f8e594aa89e93b032143cedbfe58e562f4
third Party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third Party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third Party/muses @ 5ce721187a823da2095537730c746486ca4966
third Party/pantheon-tunnel @ f866d3f58d27af94277177253ee3a354cc2e802bd
third Party/pcc @ 1af9c958fa0d66d18b623c091a55f8ec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third Party/pcc-experimental @ cd43e34e3f5f5613e8ac0df8eb92c4eb24f974ab
third Party/proto-quick @ 779461f1a82733a86b42f1bc8143ebc978f3cf842
third Party/scream-reproduce @ f09918d1421aa3131bf1ff1964974e1da32b3d2
M src/ScreamClient
M src/ScreamServer
third Party/sprout @ 366e35c6178b01e31d4a466ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third Party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from India to AWS India 1, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
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<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
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<tr>
<td>TCP BBR</td>
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<td>44.58</td>
<td>28.50</td>
<td>27.23</td>
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<td>Copa</td>
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<td>24.54</td>
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<td>17.62</td>
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<td>1.51</td>
<td>0.89</td>
<td>0.50</td>
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Run 1: Statistics of TCP BBR

Start at: 2019-02-20 09:55:18
End at: 2019-02-20 09:55:48
Local clock offset: 1.074 ms
Remote clock offset: -46.719 ms

# Below is generated by plot.py at 2019-02-20 12:13:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 78.35 Mbit/s
  95th percentile per-packet one-way delay: 106.400 ms
  Loss rate: 8.76%
-- Flow 1:
  Average throughput: 47.85 Mbit/s
  95th percentile per-packet one-way delay: 103.938 ms
  Loss rate: 8.98%
-- Flow 2:
  Average throughput: 30.67 Mbit/s
  95th percentile per-packet one-way delay: 105.661 ms
  Loss rate: 8.84%
-- Flow 3:
  Average throughput: 30.30 Mbit/s
  95th percentile per-packet one-way delay: 121.251 ms
  Loss rate: 7.59%
Run 1: Report of TCP BBR — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 52.53 Mbps)  Flow 1 egress (mean 47.85 Mbps)
Flow 2 ingress (mean 33.59 Mbps)  Flow 2 egress (mean 30.67 Mbps)
Flow 3 ingress (mean 32.71 Mbps)  Flow 3 egress (mean 30.30 Mbps)

Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 103.94 ms)  Flow 2 (95th percentile 105.66 ms)  Flow 3 (95th percentile 121.25 ms)
Run 2: Statistics of TCP BBR

Start at: 2019-02-20 10:23:07
End at: 2019-02-20 10:23:37
Local clock offset: -0.041 ms
Remote clock offset: -6.902 ms

# Below is generated by plot.py at 2019-02-20 12:13:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.81 Mbit/s
95th percentile per-packet one-way delay: 77.827 ms
Loss rate: 8.15%
-- Flow 1:
Average throughput: 28.24 Mbit/s
95th percentile per-packet one-way delay: 93.119 ms
Loss rate: 6.81%
-- Flow 2:
Average throughput: 17.58 Mbit/s
95th percentile per-packet one-way delay: 79.031 ms
Loss rate: 9.03%
-- Flow 3:
Average throughput: 20.64 Mbit/s
95th percentile per-packet one-way delay: 51.357 ms
Loss rate: 11.90%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Start at: 2019-02-20 10:50:37
End at: 2019-02-20 10:51:07
Local clock offset: -0.651 ms
Remote clock offset: -45.279 ms

# Below is generated by plot.py at 2019-02-20 12:14:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 112.023 ms
Loss rate: 3.58%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 84.089 ms
Loss rate: 3.06%
-- Flow 2:
Average throughput: 36.76 Mbit/s
95th percentile per-packet one-way delay: 127.038 ms
Loss rate: 4.80%
-- Flow 3:
Average throughput: 48.75 Mbit/s
95th percentile per-packet one-way delay: 135.323 ms
Loss rate: 3.50%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2019-02-20 11:18:58
End at: 2019-02-20 11:19:28
Local clock offset: 0.11 ms
Remote clock offset: -6.168 ms

# Below is generated by plot.py at 2019-02-20 12:14:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 43.73 Mbit/s
  95th percentile per-packet one-way delay: 58.551 ms
  Loss rate: 14.59%
-- Flow 1:
  Average throughput: 31.58 Mbit/s
  95th percentile per-packet one-way delay: 59.630 ms
  Loss rate: 13.27%
-- Flow 2:
  Average throughput: 16.75 Mbit/s
  95th percentile per-packet one-way delay: 53.306 ms
  Loss rate: 17.36%
-- Flow 3:
  Average throughput: 3.53 Mbit/s
  95th percentile per-packet one-way delay: 26.604 ms
  Loss rate: 21.68%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2019-02-20 11:47:36
End at: 2019-02-20 11:48:06
Local clock offset: -2.652 ms
Remote clock offset: -37.846 ms

# Below is generated by plot.py at 2019-02-20 12:14:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.00 Mbit/s
  95th percentile per-packet one-way delay: 99.046 ms
  Loss rate: 3.22%
-- Flow 1:
  Average throughput: 58.91 Mbit/s
  95th percentile per-packet one-way delay: 84.722 ms
  Loss rate: 3.29%
-- Flow 2:
  Average throughput: 40.76 Mbit/s
  95th percentile per-packet one-way delay: 129.828 ms
  Loss rate: 3.02%
-- Flow 3:
  Average throughput: 32.95 Mbit/s
  95th percentile per-packet one-way delay: 127.415 ms
  Loss rate: 3.37%
Run 5: Report of TCP BBR — Data Link

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

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 60.86 Mbit/s)
- Blue line: Flow 1 egress (mean 58.91 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 41.97 Mbit/s)
- Green line: Flow 2 egress (mean 40.76 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 34.01 Mbit/s)
- Red line: Flow 3 egress (mean 32.95 Mbit/s)

Legend for delay:
- Blue line: Flow 1 (95th percentile 84.72 ms)
- Green line: Flow 2 (95th percentile 129.83 ms)
- Red line: Flow 3 (95th percentile 127.42 ms)
Run 1: Statistics of Copa

Start at: 2019-02-20 09:57:53
End at: 2019-02-20 09:58:23
Local clock offset: -2.03 ms
Remote clock offset: -91.111 ms

# Below is generated by plot.py at 2019-02-20 12:14:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.11 Mbit/s
95th percentile per-packet one-way delay: 117.283 ms
Loss rate: 3.96%
-- Flow 1:
Average throughput: 21.42 Mbit/s
95th percentile per-packet one-way delay: 112.214 ms
Loss rate: 2.88%
-- Flow 2:
Average throughput: 14.14 Mbit/s
95th percentile per-packet one-way delay: 126.065 ms
Loss rate: 5.20%
-- Flow 3:
Average throughput: 13.51 Mbit/s
95th percentile per-packet one-way delay: 112.870 ms
Loss rate: 6.47%
Run 1: Report of Copa — Data Link

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

- Flow 1 ingress (mean 22.03 Mbps)
- Flow 1 egress (mean 21.42 Mbps)
- Flow 2 ingress (mean 14.89 Mbps)
- Flow 2 egress (mean 14.34 Mbps)
- Flow 3 ingress (mean 14.40 Mbps)
- Flow 3 egress (mean 13.51 Mbps)

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

- Flow 1 (95th percentile 112.21 ms)
- Flow 2 (95th percentile 126.06 ms)
- Flow 3 (95th percentile 112.87 ms)
Run 2: Statistics of Copa

Start at: 2019-02-20 10:25:31
End at: 2019-02-20 10:26:01
Local clock offset: -1.25 ms
Remote clock offset: -4.105 ms

# Below is generated by plot.py at 2019-02-20 12:14:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 27.898 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 24.511 ms
Loss rate: 2.54%
-- Flow 2:
Average throughput: 20.61 Mbit/s
95th percentile per-packet one-way delay: 47.749 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 15.04 Mbit/s
95th percentile per-packet one-way delay: 24.614 ms
Loss rate: 2.42%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2019-02-20 10:52:58
End at: 2019-02-20 10:53:28
Local clock offset: 1.399 ms
Remote clock offset: -13.999 ms

# Below is generated by plot.py at 2019-02-20 12:14:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.18 Mbit/s
95th percentile per-packet one-way delay: 29.311 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 46.25 Mbit/s
95th percentile per-packet one-way delay: 29.591 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 28.623 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 27.21 Mbit/s
95th percentile per-packet one-way delay: 29.327 ms
Loss rate: 0.29%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2019-02-20 11:22:03
End at: 2019-02-20 11:22:33
Local clock offset: -0.11 ms
Remote clock offset: -48.781 ms

# Below is generated by plot.py at 2019-02-20 12:14:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 69.620 ms
Loss rate: 15.11%
-- Flow 1:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 70.239 ms
Loss rate: 11.23%
-- Flow 2:
Average throughput: 2.88 Mbit/s
95th percentile per-packet one-way delay: 68.133 ms
Loss rate: 14.26%
-- Flow 3:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 68.560 ms
Loss rate: 41.69%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2019-02-20 11:49:56
End at: 2019-02-20 11:50:26
Local clock offset: -1.968 ms
Remote clock offset: -1.5 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
  -- Total of 3 flows:
  Average throughput: 68.06 Mbit/s
  95th percentile per-packet one-way delay: 18.753 ms
  Loss rate: 0.08%
  -- Flow 1:
  Average throughput: 39.39 Mbit/s
  95th percentile per-packet one-way delay: 18.251 ms
  Loss rate: 0.04%
  -- Flow 2:
  Average throughput: 27.52 Mbit/s
  95th percentile per-packet one-way delay: 18.602 ms
  Loss rate: 0.12%
  -- Flow 3:
  Average throughput: 31.16 Mbit/s
  95th percentile per-packet one-way delay: 20.139 ms
  Loss rate: 0.16%
Run 5: Report of Copa — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 39.38 Mbps)
- Flow 1 egress (mean 39.39 Mbps)
- Flow 2 ingress (mean 27.52 Mbps)
- Flow 2 egress (mean 27.52 Mbps)
- Flow 3 ingress (mean 31.14 Mbps)
- Flow 3 egress (mean 31.16 Mbps)

**Packet Loss (ms):**
- Flow 1 (95th percentile 18.25 ms)
- Flow 2 (95th percentile 18.60 ms)
- Flow 3 (95th percentile 20.14 ms)
Run 1: Statistics of TCP Cubic

Start at: 2019-02-20 10:12:31
End at: 2019-02-20 10:13:01
Local clock offset: 0.473 ms
Remote clock offset: -134.741 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 19.94 Mbit/s
  95th percentile per-packet one-way delay: 165.068 ms
  Loss rate: 3.22%
-- Flow 1:
  Average throughput: 6.35 Mbit/s
  95th percentile per-packet one-way delay: 160.352 ms
  Loss rate: 3.97%
-- Flow 2:
  Average throughput: 18.02 Mbit/s
  95th percentile per-packet one-way delay: 166.858 ms
  Loss rate: 2.60%
-- Flow 3:
  Average throughput: 5.29 Mbit/s
  95th percentile per-packet one-way delay: 158.593 ms
  Loss rate: 4.49%
Run 1: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress** (mean 6.38 Mb/s)
- **Flow 1 egress** (mean 6.35 Mb/s)
- **Flow 2 ingress** (mean 17.53 Mb/s)
- **Flow 2 egress** (mean 16.02 Mb/s)
- **Flow 3 ingress** (mean 5.53 Mb/s)
- **Flow 3 egress** (mean 5.29 Mb/s)

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

- **Flow 1** (95th percentile 160.35 ms)
- **Flow 2** (95th percentile 166.86 ms)
- **Flow 3** (95th percentile 158.59 ms)

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Run 2: Statistics of TCP Cubic

Start at: 2019-02-20 10:40:01
End at: 2019-02-20 10:40:31
Local clock offset: 0.611 ms
Remote clock offset: -4.419 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.91 Mbit/s
95th percentile per-packet one-way delay: 24.879 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 24.812 ms
Loss rate: 2.73%
-- Flow 2:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 24.823 ms
Loss rate: 3.26%
-- Flow 3:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 30.203 ms
Loss rate: 6.66%
Run 3: Statistics of TCP Cubic

Start at: 2019-02-20 11:06:46
End at: 2019-02-20 11:07:16
Local clock offset: -0.145 ms
Remote clock offset: -6.592 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 34.613 ms
Loss rate: 5.65%
-- Flow 1:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 27.383 ms
Loss rate: 6.07%
-- Flow 2:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 24.345 ms
Loss rate: 6.61%
-- Flow 3:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 48.119 ms
Loss rate: 4.03%
Run 3: Report of TCP Cubic — Data Link

![Graph showing throughput over time for different flows and their ingress and egress speeds.]

- Flow 1 ingress (mean 6.34 Mbit/s)
- Flow 1 egress (mean 5.96 Mbit/s)
- Flow 2 ingress (mean 3.19 Mbit/s)
- Flow 2 egress (mean 2.96 Mbit/s)
- Flow 3 ingress (mean 8.76 Mbit/s)
- Flow 3 egress (mean 9.41 Mbit/s)

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

- Flow 1 (95th percentile 27.38 ms)
- Flow 2 (95th percentile 24.34 ms)
- Flow 3 (95th percentile 49.12 ms)
Run 4: Statistics of TCP Cubic

Start at: 2019-02-20 11:37:39
End at: 2019-02-20 11:38:09
Local clock offset: -1.246 ms
Remote clock offset: -2.171 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 24.035 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.65 Mbit/s
95th percentile per-packet one-way delay: 24.061 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.18 Mbit/s
95th percentile per-packet one-way delay: 24.600 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 46.31 Mbit/s
95th percentile per-packet one-way delay: 23.511 ms
Loss rate: 0.28%
Run 4: Report of TCP Cubic — Data Link
Run 5: Statistics of TCP Cubic

Start at: 2019-02-20 12:03:14
End at: 2019-02-20 12:03:44
Local clock offset: -3.115 ms
Remote clock offset: -5.145 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 76.07 Mbit/s
  95th percentile per-packet one-way delay: 26.589 ms
  Loss rate: 0.15%
  -- Flow 1:
    Average throughput: 39.79 Mbit/s
    95th percentile per-packet one-way delay: 25.330 ms
    Loss rate: 0.10%
  -- Flow 2:
    Average throughput: 38.84 Mbit/s
    95th percentile per-packet one-way delay: 27.779 ms
    Loss rate: 0.17%
  -- Flow 3:
    Average throughput: 31.36 Mbit/s
    95th percentile per-packet one-way delay: 27.332 ms
    Loss rate: 0.32%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2019-02-20 10:02:13  
End at: 2019-02-20 10:02:43  
Local clock offset: 2.181 ms  
Remote clock offset: -63.694 ms

# Below is generated by plot.py at 2019-02-20 12:15:02  
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.38 Mbit/s  
95th percentile per-packet one-way delay: 139.982 ms  
Loss rate: 6.36%
-- Flow 1:
Average throughput: 37.90 Mbit/s  
95th percentile per-packet one-way delay: 133.220 ms  
Loss rate: 6.12%
-- Flow 2:
Average throughput: 35.65 Mbit/s  
95th percentile per-packet one-way delay: 152.194 ms  
Loss rate: 9.36%
-- Flow 3:
Average throughput: 41.41 Mbit/s  
95th percentile per-packet one-way delay: 114.411 ms  
Loss rate: 1.37%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2019-02-20 10:29:29
End at: 2019-02-20 10:29:59
Local clock offset: -3.279 ms
Remote clock offset: -63.228 ms

# Below is generated by plot.py at 2019-02-20 12:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.30 Mbit/s
95th percentile per-packet one-way delay: 134.201 ms
Loss rate: 7.27%
-- Flow 1:
Average throughput: 41.00 Mbit/s
95th percentile per-packet one-way delay: 110.880 ms
Loss rate: 6.40%
-- Flow 2:
Average throughput: 35.36 Mbit/s
95th percentile per-packet one-way delay: 154.475 ms
Loss rate: 7.33%
-- Flow 3:
Average throughput: 20.38 Mbit/s
95th percentile per-packet one-way delay: 135.394 ms
Loss rate: 12.06%
Run 2: Report of FillP — Data Link

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

- Flow 1 ingress (mean 43.75 Mbit/s)
- Flow 1 egress (mean 41.00 Mbit/s)
- Flow 2 ingress (mean 38.11 Mbit/s)
- Flow 2 egress (mean 35.36 Mbit/s)
- Flow 3 ingress (mean 23.09 Mbit/s)
- Flow 3 egress (mean 20.38 Mbit/s)

- Flow 1 (95th percentile 110.88 ms)
- Flow 2 (95th percentile 154.47 ms)
- Flow 3 (95th percentile 135.39 ms)
Run 3: Statistics of FillP

Start at: 2019-02-20 10:56:38
End at: 2019-02-20 10:57:08
Local clock offset: 2.345 ms
Remote clock offset: -37.791 ms

# Below is generated by plot.py at 2019-02-20 12:15:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 99.115 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 88.884 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 102.847 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 108.243 ms
Loss rate: 3.27%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2019-02-20 11:26:55
End at: 2019-02-20 11:27:25
Local clock offset: 2.323 ms
Remote clock offset: -3.68 ms

# Below is generated by plot.py at 2019-02-20 12:15:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 57.95 Mbit/s
  95th percentile per-packet one-way delay: 74.488 ms
  Loss rate: 19.06%
-- Flow 1:
  Average throughput: 29.43 Mbit/s
  95th percentile per-packet one-way delay: 75.660 ms
  Loss rate: 17.17%
-- Flow 2:
  Average throughput: 34.60 Mbit/s
  95th percentile per-packet one-way delay: 69.534 ms
  Loss rate: 20.11%
-- Flow 3:
  Average throughput: 16.77 Mbit/s
  95th percentile per-packet one-way delay: 97.329 ms
  Loss rate: 24.14%
Run 4: Report of FillP — Data Link

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

- Flow 1 (mean 35.46 Mbit/s, 95th percentile 75.66 ms)
- Flow 2 (mean 43.18 Mbit/s, 95th percentile 69.53 ms)
- Flow 3 (mean 21.84 Mbit/s, 95th percentile 97.33 ms)
Run 5: Statistics of FillP

Start at: 2019-02-20 11:53:34
End at: 2019-02-20 11:54:04
Local clock offset: -10.717 ms
Remote clock offset: -6.345 ms

# Below is generated by plot.py at 2019-02-20 12:16:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.57 Mbit/s
  95th percentile per-packet one-way delay: 68.014 ms
  Loss rate: 1.05%
-- Flow 1:
  Average throughput: 55.21 Mbit/s
  95th percentile per-packet one-way delay: 59.490 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 37.50 Mbit/s
  95th percentile per-packet one-way delay: 77.365 ms
  Loss rate: 2.88%
-- Flow 3:
  Average throughput: 46.37 Mbit/s
  95th percentile per-packet one-way delay: 46.908 ms
  Loss rate: 0.60%
Run 5: Report of FillP — Data Link

![Graph showing throughput and per-packet delay]

- Flow 1 ingress (mean 55.34 Mbit/s)
- Flow 1 egress (mean 55.21 Mbit/s)
- Flow 2 ingress (mean 38.58 Mbit/s)
- Flow 2 egress (mean 37.50 Mbit/s)
- Flow 3 ingress (mean 46.52 Mbit/s)
- Flow 3 egress (mean 46.37 Mbit/s)

- Flow 1 (95th percentile 59.49 ms)
- Flow 2 (95th percentile 77.36 ms)
- Flow 3 (95th percentile 46.91 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-20 09:59:36
End at: 2019-02-20 10:00:06
Local clock offset: -2.093 ms
Remote clock offset: -93.146 ms

# Below is generated by plot.py at 2019-02-20 12:16:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 51.60 Mbit/s
  95th percentile per-packet one-way delay: 141.087 ms
  Loss rate: 9.53%
-- Flow 1:
  Average throughput: 7.53 Mbit/s
  95th percentile per-packet one-way delay: 115.301 ms
  Loss rate: 20.08%
-- Flow 2:
  Average throughput: 47.95 Mbit/s
  95th percentile per-packet one-way delay: 138.121 ms
  Loss rate: 8.35%
-- Flow 3:
  Average throughput: 37.13 Mbit/s
  95th percentile per-packet one-way delay: 190.206 ms
  Loss rate: 5.20%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-20 10:26:52
End at: 2019-02-20 10:27:22
Local clock offset: -1.748 ms
Remote clock offset: -3.89 ms

# Below is generated by plot.py at 2019-02-20 12:16:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: 64.493 ms
Loss rate: 9.17%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 89.253 ms
Loss rate: 57.54%
-- Flow 2:
Average throughput: 53.72 Mbit/s
95th percentile per-packet one-way delay: 65.604 ms
Loss rate: 6.98%
-- Flow 3:
Average throughput: 39.97 Mbit/s
95th percentile per-packet one-way delay: 60.563 ms
Loss rate: 5.24%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-20 10:54:12
End at: 2019-02-20 10:54:42
Local clock offset: 0.199 ms
Remote clock offset: -7.891 ms

# Below is generated by plot.py at 2019-02-20 12:16:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.53 Mbit/s
  95th percentile per-packet one-way delay: 55.410 ms
  Loss rate: 0.31%
-- Flow 1:
  Average throughput: 43.61 Mbit/s
  95th percentile per-packet one-way delay: 51.852 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 46.99 Mbit/s
  95th percentile per-packet one-way delay: 61.024 ms
  Loss rate: 0.44%
-- Flow 3:
  Average throughput: 41.23 Mbit/s
  95th percentile per-packet one-way delay: 43.051 ms
  Loss rate: 0.44%
Run 3: Report of FillP-Sheep — Data Link

![Graphs showing throughput and packet loss over time for different flows.]
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-20 11:23:22
End at: 2019-02-20 11:23:52
Local clock offset: -1.272 ms
Remote clock offset: -17.92 ms

# Below is generated by plot.py at 2019-02-20 12:16:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.55 Mbit/s
95th percentile per-packet one-way delay: 70.452 ms
Loss rate: 47.79%
-- Flow 1:
Average throughput: 27.84 Mbit/s
95th percentile per-packet one-way delay: 74.869 ms
Loss rate: 42.55%
-- Flow 2:
Average throughput: 36.85 Mbit/s
95th percentile per-packet one-way delay: 70.981 ms
Loss rate: 40.74%
-- Flow 3:
Average throughput: 19.15 Mbit/s
95th percentile per-packet one-way delay: 61.262 ms
Loss rate: 75.35%
Run 4: Report of FillP-Sheep — Data Link

![Graph showing throughput and packet delay over time]

- Flow 1 ingress (mean 35.97 Mbit/s)
- Flow 1 egress (mean 27.84 Mbit/s)
- Flow 2 ingress (mean 39.76 Mbit/s)
- Flow 2 egress (mean 36.85 Mbit/s)
- Flow 3 ingress (mean 31.02 Mbit/s)
- Flow 3 egress (mean 19.15 Mbit/s)
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-20 11:51:10
End at: 2019-02-20 11:51:40
Local clock offset: -3.557 ms
Remote clock offset: -27.167 ms

# Below is generated by plot.py at 2019-02-20 12:16:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.65 Mbit/s
95th percentile per-packet one-way delay: 74.888 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 50.38 Mbit/s
95th percentile per-packet one-way delay: 64.466 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 47.69 Mbit/s
95th percentile per-packet one-way delay: 71.233 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 96.553 ms
Loss rate: 0.83%
Run 5: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 50.36 Mbit/s)
- Flow 1 egress (mean 50.38 Mbit/s)
- Flow 2 ingress (mean 47.74 Mbit/s)
- Flow 2 egress (mean 47.69 Mbit/s)
- Flow 3 ingress (mean 37.95 Mbit/s)
- Flow 3 egress (mean 37.74 Mbit/s)
Run 1: Statistics of Indigo

Start at: 2019-02-20 10:10:06
End at: 2019-02-20 10:10:36
Local clock offset: -1.428 ms
Remote clock offset: -93.686 ms

# Below is generated by plot.py at 2019-02-20 12:16:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 23.48 Mbit/s
  95th percentile per-packet one-way delay: 118.679 ms
  Loss rate: 12.33%
-- Flow 1:
  Average throughput: 8.42 Mbit/s
  95th percentile per-packet one-way delay: 117.027 ms
  Loss rate: 12.88%
-- Flow 2:
  Average throughput: 13.10 Mbit/s
  95th percentile per-packet one-way delay: 120.372 ms
  Loss rate: 10.79%
-- Flow 3:
  Average throughput: 21.63 Mbit/s
  95th percentile per-packet one-way delay: 118.063 ms
  Loss rate: 13.54%
Run 1: Report of Indigo — Data Link

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

| Flow 1 Ingress (mean 9.32 Mbit/s) | Flow 1 Egress (mean 8.42 Mbit/s) |
| Flow 2 Ingress (mean 13.92 Mbit/s) | Flow 2 Egress (mean 13.10 Mbit/s) |
| Flow 3 Ingress (mean 24.93 Mbit/s) | Flow 3 Egress (mean 21.63 Mbit/s) |

| Flow 1 (95th percentile 117.03 ms) | Flow 2 (95th percentile 120.37 ms) | Flow 3 (95th percentile 118.06 ms) |
Run 2: Statistics of Indigo

Start at: 2019-02-20 10:37:21
End at: 2019-02-20 10:37:51
Local clock offset: -2.435 ms
Remote clock offset: -5.216 ms

# Below is generated by plot.py at 2019-02-20 12:16:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.49 Mbit/s
95th percentile per-packet one-way delay: 24.164 ms
Loss rate: 5.83%
-- Flow 1:
Average throughput: 17.40 Mbit/s
95th percentile per-packet one-way delay: 24.493 ms
Loss rate: 8.22%
-- Flow 2:
Average throughput: 22.84 Mbit/s
95th percentile per-packet one-way delay: 23.806 ms
Loss rate: 5.17%
-- Flow 3:
Average throughput: 32.74 Mbit/s
95th percentile per-packet one-way delay: 24.288 ms
Loss rate: 2.89%
Run 2: Report of Indigo — Data Link

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

- **Throughput** (Mbps):
  - Flow 1 ingress (mean 18.30 Mbps)  
  - Flow 1 egress (mean 17.40 Mbps)  
  - Flow 2 ingress (mean 24.04 Mbps)  
  - Flow 2 egress (mean 22.84 Mbps)  
  - Flow 3 ingress (mean 33.62 Mbps)  
  - Flow 3 egress (mean 32.74 Mbps)

- **Per-packet one-way delay** (ms):
  - Flow 1 (95th percentile 24.49 ms)  
  - Flow 2 (95th percentile 23.81 ms)  
  - Flow 3 (95th percentile 24.29 ms)
Run 3: Statistics of Indigo

Start at: 2019-02-20 11:04:25
End at: 2019-02-20 11:04:55
Local clock offset: 1.928 ms
Remote clock offset: -17.824 ms

# Below is generated by plot.py at 2019-02-20 12:16:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 36.22 Mbit/s
  95th percentile per-packet one-way delay: 42.029 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 17.08 Mbit/s
  95th percentile per-packet one-way delay: 42.484 ms
  Loss rate: 0.59%
-- Flow 2:
  Average throughput: 16.79 Mbit/s
  95th percentile per-packet one-way delay: 41.779 ms
  Loss rate: 0.39%
-- Flow 3:
  Average throughput: 24.37 Mbit/s
  95th percentile per-packet one-way delay: 42.021 ms
  Loss rate: 0.76%
Run 3: Report of Indigo — Data Link

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**Throughput (Mbps):**

- **Flow 1 ingress (mean 17.16 Mbps)**
- **Flow 1 egress (mean 17.08 Mbps)**
- **Flow 2 ingress (mean 16.83 Mbps)**
- **Flow 2 egress (mean 16.79 Mbps)**
- **Flow 3 ingress (mean 24.47 Mbps)**
- **Flow 3 egress (mean 24.37 Mbps)**

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

- **Flow 1 (95th percentile 42.48 ms)**
- **Flow 2 (95th percentile 41.78 ms)**
- **Flow 3 (95th percentile 42.02 ms)**
Run 4: Statistics of Indigo

Start at: 2019-02-20 11:35:15
End at: 2019-02-20 11:35:45
Local clock offset: -0.991 ms
Remote clock offset: -29.769 ms

# Below is generated by plot.py at 2019-02-20 12:16:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.91 Mbit/s
95th percentile per-packet one-way delay: 50.277 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 51.43 Mbit/s
95th percentile per-packet one-way delay: 47.444 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 50.346 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 32.03 Mbit/s
95th percentile per-packet one-way delay: 50.676 ms
Loss rate: 0.30%
Run 4: Report of Indigo — Data Link

Graph 1: Throughput over time for different flows.

Graph 2: Per-packet one-way delay for different flows.

Legend:
- Flow 1 ingress (mean 51.53 Mbit/s)
- Flow 1 egress (mean 51.43 Mbit/s)
- Flow 2 ingress (mean 40.60 Mbit/s)
- Flow 2 egress (mean 40.58 Mbit/s)
- Flow 3 ingress (mean 32.03 Mbit/s)
- Flow 3 egress (mean 32.03 Mbit/s)
Run 5: Statistics of Indigo

Start at: 2019-02-20 12:00:52
End at: 2019-02-20 12:01:22
Local clock offset: -1.878 ms
Remote clock offset: -80.673 ms

# Below is generated by plot.py at 2019-02-20 12:16:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.70 Mbit/s
95th percentile per-packet one-way delay: 103.274 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.11 Mbit/s
95th percentile per-packet one-way delay: 103.135 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 98.889 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 103.817 ms
Loss rate: 0.43%
Run 5: Report of Indigo — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 58.09 Mbit/s)  Flow 1 egress (mean 58.11 Mbit/s)
Flow 2 ingress (mean 43.10 Mbit/s)  Flow 2 egress (mean 43.09 Mbit/s)
Flow 3 ingress (mean 24.32 Mbit/s)  Flow 3 egress (mean 24.28 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 103.14 ms)  Flow 2 (95th percentile 98.89 ms)  Flow 3 (95th percentile 103.82 ms)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-20 10:05:56  
End at: 2019-02-20 10:06:26  
Local clock offset: 0.991 ms  
Remote clock offset: -141.596 ms

# Below is generated by plot.py at 2019-02-20 12:16:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 21.30 Mbit/s  
95th percentile per-packet one-way delay: 165.701 ms  
Loss rate: 6.64%  
-- Flow 1:  
Average throughput: 14.32 Mbit/s  
95th percentile per-packet one-way delay: 165.968 ms  
Loss rate: 5.70%  
-- Flow 2:  
Average throughput: 6.70 Mbit/s  
95th percentile per-packet one-way delay: 165.300 ms  
Loss rate: 11.73%  
-- Flow 3:  
Average throughput: 9.16 Mbit/s  
95th percentile per-packet one-way delay: 165.290 ms  
Loss rate: 2.77%
Run 1: Report of Indigo-MusesC3 — Data Link

![Graph](image1)

![Graph](image2)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-20 10:33:22
End at: 2019-02-20 10:33:52
Local clock offset: -0.02 ms
Remote clock offset: -59.304 ms

# Below is generated by plot.py at 2019-02-20 12:16:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 82.230 ms
Loss rate: 9.67%

-- Flow 1:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 82.277 ms
Loss rate: 9.48%

-- Flow 2:
Average throughput: 21.85 Mbit/s
95th percentile per-packet one-way delay: 82.251 ms
Loss rate: 9.48%

-- Flow 3:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 81.848 ms
Loss rate: 11.51%
Run 2: Report of Indigo-MusesC3 — Data Link

![Graph of Throughput vs Time for Indigo-MusesC3 Data Link]

- Flow 1 ingress (mean 15.87 Mbit/s)
- Flow 1 egress (mean 14.38 Mbit/s)
- Flow 2 ingress (mean 24.10 Mbit/s)
- Flow 2 egress (mean 21.85 Mbit/s)
- Flow 3 ingress (mean 11.30 Mbit/s)
- Flow 3 egress (mean 10.67 Mbit/s)

![Graph of Packet One Way Delay vs Time for Indigo-MusesC3 Data Link]

- Flow 1 (95th percentile 82.28 ms)
- Flow 2 (95th percentile 82.25 ms)
- Flow 3 (95th percentile 81.85 ms)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-20 11:00:18
End at: 2019-02-20 11:00:48
Local clock offset: 0.532 ms
Remote clock offset: -7.672 ms

# Below is generated by plot.py at 2019-02-20 12:16:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 66.83 Mbit/s
  95th percentile per-packet one-way delay: 21.102 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 36.00 Mbit/s
  95th percentile per-packet one-way delay: 20.461 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 42.07 Mbit/s
  95th percentile per-packet one-way delay: 21.993 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 14.62 Mbit/s
  95th percentile per-packet one-way delay: 21.674 ms
  Loss rate: 0.44%
Run 3: Report of Indigo-MusesC3 — Data Link
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-20 11:30:54
End at: 2019-02-20 11:31:24
Local clock offset: -0.261 ms
Remote clock offset: -31.803 ms

# Below is generated by plot.py at 2019-02-20 12:16:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 54.214 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 20.94 Mbit/s
95th percentile per-packet one-way delay: 53.984 ms
Loss rate: 4.61%
-- Flow 2:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 54.074 ms
Loss rate: 3.86%
-- Flow 3:
Average throughput: 15.51 Mbit/s
95th percentile per-packet one-way delay: 55.439 ms
Loss rate: 5.20%
Run 4: Report of Indigo-MusesC3 — Data Link

- **Throughput (Mbps/s)**
  - Flow 1 ingress (mean 21.88 Mbps/s)
  - Flow 1 egress (mean 20.94 Mbps/s)
  - Flow 2 ingress (mean 22.74 Mbps/s)
  - Flow 2 egress (mean 21.96 Mbps/s)
  - Flow 3 ingress (mean 16.17 Mbps/s)
  - Flow 3 egress (mean 15.51 Mbps/s)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 53.98 ms)
  - Flow 2 (95th percentile 54.07 ms)
  - Flow 3 (95th percentile 55.44 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-20 11:57:09
End at: 2019-02-20 11:57:39
Local clock offset: -2.623 ms
Remote clock offset: -50.177 ms

# Below is generated by plot.py at 2019-02-20 12:17:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 72.01 Mbit/s
  95th percentile per-packet one-way delay: 68.235 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 52.71 Mbit/s
  95th percentile per-packet one-way delay: 67.746 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 19.30 Mbit/s
  95th percentile per-packet one-way delay: 67.514 ms
  Loss rate: 0.07%
-- Flow 3:
  Average throughput: 24.92 Mbit/s
  95th percentile per-packet one-way delay: 71.687 ms
  Loss rate: 0.45%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-20 10:08:39
End at: 2019-02-20 10:09:09
Local clock offset: 1.468 ms
Remote clock offset: -3.346 ms

# Below is generated by plot.py at 2019-02-20 12:17:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.13 Mbit/s
95th percentile per-packet one-way delay: 40.395 ms
Loss rate: 20.54%
-- Flow 1:
Average throughput: 21.46 Mbit/s
95th percentile per-packet one-way delay: 37.728 ms
Loss rate: 14.91%
-- Flow 2:
Average throughput: 19.79 Mbit/s
95th percentile per-packet one-way delay: 43.763 ms
Loss rate: 27.89%
-- Flow 3:
Average throughput: 2.61 Mbit/s
95th percentile per-packet one-way delay: 33.644 ms
Loss rate: 30.05%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-20 10:36:01
End at: 2019-02-20 10:36:31
Local clock offset: -1.239 ms
Remote clock offset: -27.101 ms

# Below is generated by plot.py at 2019-02-20 12:17:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 76.95 Mbit/s
  95th percentile per-packet one-way delay: 87.869 ms
  Loss rate: 4.93%
-- Flow 1:
  Average throughput: 43.41 Mbit/s
  95th percentile per-packet one-way delay: 80.106 ms
  Loss rate: 4.43%
-- Flow 2:
  Average throughput: 39.56 Mbit/s
  95th percentile per-packet one-way delay: 62.087 ms
  Loss rate: 4.44%
-- Flow 3:
  Average throughput: 28.55 Mbit/s
  95th percentile per-packet one-way delay: 99.797 ms
  Loss rate: 9.00%
Run 2: Report of Indigo-MusesC5 — Data Link

![Graph showing data link performance](image)

- **Flow 1 Ingress**: (mean 45.38 Mbit/s)
- **Flow 1 Egress**: (mean 43.41 Mbit/s)
- **Flow 2 Ingress**: (mean 41.36 Mbit/s)
- **Flow 2 Egress**: (mean 39.56 Mbit/s)
- **Flow 3 Ingress**: (mean 31.23 Mbit/s)
- **Flow 3 Egress**: (mean 20.55 Mbit/s)

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

- **Flow 1**: (95th percentile 80.11 ms)
- **Flow 2**: (95th percentile 62.09 ms)
- **Flow 3**: (95th percentile 99.80 ms)
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-20 11:02:52
End at: 2019-02-20 11:03:22
Local clock offset: 1.824 ms
Remote clock offset: -19.909 ms

# Below is generated by plot.py at 2019-02-20 12:17:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.14 Mbit/s
95th percentile per-packet one-way delay: 62.498 ms
Loss rate: 9.60%
-- Flow 1:
Average throughput: 31.26 Mbit/s
95th percentile per-packet one-way delay: 67.668 ms
Loss rate: 7.68%
-- Flow 2:
Average throughput: 40.36 Mbit/s
95th percentile per-packet one-way delay: 60.639 ms
Loss rate: 10.18%
-- Flow 3:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 65.696 ms
Loss rate: 14.31%
Run 3: Report of Indigo-MusesC5 — Data Link

![Graphs showing network performance metrics over time]

- Flow 1 ingress (mean 33.83 Mbit/s)
- Flow 1 egress (mean 31.26 Mbit/s)
- Flow 2 ingress (mean 44.88 Mbit/s)
- Flow 2 egress (mean 40.36 Mbit/s)
- Flow 3 ingress (mean 35.51 Mbit/s)
- Flow 3 egress (mean 30.49 Mbit/s)

- Flow 1 (95th percentile 67.67 ms)
- Flow 2 (95th percentile 60.64 ms)
- Flow 3 (95th percentile 65.70 ms)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-20 11:33:59
End at: 2019-02-20 11:34:29
Local clock offset: 11.208 ms
Remote clock offset: -4.628 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.18 Mbit/s
95th percentile per-packet one-way delay: 76.245 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 49.12 Mbit/s
95th percentile per-packet one-way delay: 57.551 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 42.44 Mbit/s
95th percentile per-packet one-way delay: 71.326 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 30.91 Mbit/s
95th percentile per-packet one-way delay: 87.606 ms
Loss rate: 7.57%
Run 4: Report of Indigo-MuseC5 — Data Link

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

![Graph 2: Packet Loss Over Time](image2)
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-20 11:59:38
End at: 2019-02-20 12:00:08
Local clock offset: -2.695 ms
Remote clock offset: -26.32 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.89 Mbit/s
95th percentile per-packet one-way delay: 69.983 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 43.63 Mbit/s
95th percentile per-packet one-way delay: 71.891 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 27.04 Mbit/s
95th percentile per-packet one-way delay: 61.236 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 59.600 ms
Loss rate: 0.61%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-20 09:53:56
End at: 2019-02-20 09:54:26
Local clock offset: 0.943 ms
Remote clock offset: -86.088 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.43 Mbit/s
95th percentile per-packet one-way delay: 115.268 ms
Loss rate: 7.96%
-- Flow 1:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 114.453 ms
Loss rate: 8.67%
-- Flow 2:
Average throughput: 20.22 Mbit/s
95th percentile per-packet one-way delay: 116.587 ms
Loss rate: 6.41%
-- Flow 3:
Average throughput: 17.93 Mbit/s
95th percentile per-packet one-way delay: 115.489 ms
Loss rate: 8.66%
Run 1: Report of Indigo-MusesD — Data Link

- Flow 1 ingress (mean 25.47 Mbit/s)
- Flow 1 egress (mean 23.69 Mbit/s)
- Flow 2 ingress (mean 21.38 Mbit/s)
- Flow 2 egress (mean 20.22 Mbit/s)
- Flow 3 ingress (mean 17.19 Mbit/s)
- Flow 3 egress (mean 17.93 Mbit/s)

- Flow 1 (95th percentile 114.45 ms)
- Flow 2 (95th percentile 116.59 ms)
- Flow 3 (95th percentile 115.49 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-20 10:21:50
End at: 2019-02-20 10:22:20
Local clock offset: 1.227 ms
Remote clock offset: -77.06 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics

-- Total of 3 flows:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 102.830 ms
Loss rate: 9.77%

-- Flow 1:
Average throughput: 15.77 Mbit/s
95th percentile per-packet one-way delay: 103.292 ms
Loss rate: 9.14%

-- Flow 2:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 100.363 ms
Loss rate: 13.93%

-- Flow 3:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 102.751 ms
Loss rate: 9.96%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-20 10:49:26
End at: 2019-02-20 10:49:56
Local clock offset: 0.105 ms
Remote clock offset: -45.379 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.49 Mbit/s
95th percentile per-packet one-way delay: 70.694 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 31.29 Mbit/s
95th percentile per-packet one-way delay: 68.379 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 27.96 Mbit/s
95th percentile per-packet one-way delay: 66.866 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 21.95 Mbit/s
95th percentile per-packet one-way delay: 90.018 ms
Loss rate: 1.73%
Run 3: Report of Indigo-MusesD — Data Link

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

- **Flow 1 Ingress** (mean 31.37 Mbit/s)
- **Flow 1 Egress** (mean 31.29 Mbit/s)
- **Flow 2 Ingress** (mean 28.12 Mbit/s)
- **Flow 2 Egress** (mean 27.96 Mbit/s)
- **Flow 3 Ingress** (mean 22.28 Mbit/s)
- **Flow 3 Egress** (mean 21.95 Mbit/s)

![Graph 2: Per-packet End-to-End Delay](image2.png)

- Flow 1 (95th percentile 68.38 ms)
- Flow 2 (95th percentile 66.87 ms)
- Flow 3 (95th percentile 90.02 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-20 11:17:42
End at: 2019-02-20 11:18:12
Local clock offset: -0.533 ms
Remote clock offset: -20.302 ms

# Below is generated by plot.py at 2019-02-20 12:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 38.205 ms
Loss rate: 19.92%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 38.178 ms
Loss rate: 18.82%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 38.237 ms
Loss rate: 21.49%
-- Flow 3:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 38.230 ms
Loss rate: 20.56%
Run 4: Report of Indigo-MusesD — Data Link

![Graph showing network performance metrics.](image)

### Throughput (Mbps)
- **Flow 1 Ingress** (mean 1.90 Mbps)
- **Flow 1 Egress** (mean 1.54 Mbps)
- **Flow 2 Ingress** (mean 1.66 Mbps)
- **Flow 2 Egress** (mean 1.38 Mbps)
- **Flow 3 Ingress** (mean 2.12 Mbps)
- **Flow 3 Egress** (mean 1.92 Mbps)

### Packet Delay (ms)
- **Flow 1** (95th percentile 38.18 ms)
- **Flow 2** (95th percentile 38.24 ms)
- **Flow 3** (95th percentile 38.23 ms)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-20 11:46:26
End at: 2019-02-20 11:46:56
Local clock offset: 1.585 ms
Remote clock offset: -22.515 ms

# Below is generated by plot.py at 2019-02-20 12:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.86 Mbit/s
95th percentile per-packet one-way delay: 46.242 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 41.16 Mbit/s
95th percentile per-packet one-way delay: 45.933 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 42.063 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.12 Mbit/s
95th percentile per-packet one-way delay: 49.607 ms
Loss rate: 0.49%
Run 5: Report of Indigo-MusesD — Data Link
Run 1: Statistics of Indigo-MuseST

Start at: 2019-02-20 10:07:12
End at: 2019-02-20 10:07:42
Local clock offset: 0.544 ms
Remote clock offset: -182.869 ms

# Below is generated by plot.py at 2019-02-20 12:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.17 Mbit/s
95th percentile per-packet one-way delay: 208.479 ms
Loss rate: 11.55%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 208.728 ms
Loss rate: 12.08%
-- Flow 2:
Average throughput: 14.25 Mbit/s
95th percentile per-packet one-way delay: 208.400 ms
Loss rate: 10.80%
-- Flow 3:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 207.999 ms
Loss rate: 12.29%
Run 1: Report of Indigo-MusesT — Data Link
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-20 10:34:40
End at: 2019-02-20 10:35:10
Local clock offset: 2.722 ms
Remote clock offset: -32.201 ms

# Below is generated by plot.py at 2019-02-20 12:18:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 56.94 Mbit/s
  95th percentile per-packet one-way delay: 60.010 ms
  Loss rate: 5.37%
-- Flow 1:
  Average throughput: 42.74 Mbit/s
  95th percentile per-packet one-way delay: 59.381 ms
  Loss rate: 4.77%
-- Flow 2:
  Average throughput: 20.40 Mbit/s
  95th percentile per-packet one-way delay: 62.280 ms
  Loss rate: 6.73%
-- Flow 3:
  Average throughput: 3.89 Mbit/s
  95th percentile per-packet one-way delay: 57.402 ms
  Loss rate: 11.71%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-20 11:01:30
End at: 2019-02-20 11:02:00
Local clock offset: 1.187 ms
Remote clock offset: -7.334 ms

# Below is generated by plot.py at 2019-02-20 12:18:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 39.051 ms
Loss rate: 7.42%
-- Flow 1:
Average throughput: 47.41 Mbit/s
95th percentile per-packet one-way delay: 37.457 ms
Loss rate: 6.18%
-- Flow 2:
Average throughput: 33.52 Mbit/s
95th percentile per-packet one-way delay: 42.541 ms
Loss rate: 9.78%
-- Flow 3:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 30.556 ms
Loss rate: 9.51%
Run 3: Report of Indigo-MusesT — Data Link

![Graph showing throughput and packet delay over time for different flows.]
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-20 11:32:28
End at: 2019-02-20 11:32:58
Local clock offset: 16.649 ms
Remote clock offset: -26.531 ms

# Below is generated by plot.py at 2019-02-20 12:18:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.68 Mbit/s
95th percentile per-packet one-way delay: 98.900 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 60.72 Mbit/s
95th percentile per-packet one-way delay: 97.205 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 39.33 Mbit/s
95th percentile per-packet one-way delay: 166.243 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 72.133 ms
Loss rate: 1.09%
Run 4: Report of Indigo-MusesT — Data Link
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-20 11:58:25
End at: 2019-02-20 11:58:55
Local clock offset: -2.014 ms
Remote clock offset: -51.895 ms

# Below is generated by plot.py at 2019-02-20 12:18:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.73 Mbit/s
  95th percentile per-packet one-way delay: 141.041 ms
  Loss rate: 1.04%
-- Flow 1:
  Average throughput: 61.28 Mbit/s
  95th percentile per-packet one-way delay: 81.221 ms
  Loss rate: 0.11%
-- Flow 2:
  Average throughput: 41.48 Mbit/s
  95th percentile per-packet one-way delay: 264.055 ms
  Loss rate: 2.29%
-- Flow 3:
  Average throughput: 24.86 Mbit/s
  95th percentile per-packet one-way delay: 160.931 ms
  Loss rate: 4.27%
Run 5: Report of Indigo-MusesT — Data Link
Run 1: Statistics of LEDBAT

Start at: 2019-02-20 10:03:29
End at: 2019-02-20 10:03:59
Local clock offset: 0.314 ms
Remote clock offset: -81.526 ms

# Below is generated by plot.py at 2019-02-20 12:18:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 105.802 ms
Loss rate: 3.30%
-- Flow 1:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 105.109 ms
Loss rate: 3.67%
-- Flow 2:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 105.118 ms
Loss rate: 3.14%
-- Flow 3:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 108.594 ms
Loss rate: 2.82%
Run 1: Report of LEDBAT — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 4.50 Mbps)
- Flow 1 egress (mean 4.82 Mbps)
- Flow 2 ingress (mean 7.37 Mbps)
- Flow 2 egress (mean 7.14 Mbps)
- Flow 3 ingress (mean 6.01 Mbps)
- Flow 3 egress (mean 5.86 Mbps)

![Graph 2: RTT (ms)]

- Flow 1 (95th percentile 105.11 ms)
- Flow 2 (95th percentile 105.12 ms)
- Flow 3 (95th percentile 108.59 ms)
Run 2: Statistics of LEDBAT

Start at: 2019-02-20 10:30:46
End at: 2019-02-20 10:31:16
Local clock offset: -0.017 ms
Remote clock offset: -27.065 ms

# Below is generated by plot.py at 2019-02-20 12:18:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 48.653 ms
Loss rate: 6.23%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 48.633 ms
Loss rate: 4.94%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 48.738 ms
Loss rate: 11.37%
-- Flow 3:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 48.640 ms
Loss rate: 6.71%
Run 2: Report of LEDBAT — Data Link

![Throughput vs Time Graph](image1)

![Round-trip Time vs Time Graph](image2)

- Flow 1 ingress (mean 1.34 Mbit/s)
- Flow 1 egress (mean 1.27 Mbit/s)
- Flow 2 ingress (mean 0.42 Mbit/s)
- Flow 2 egress (mean 0.36 Mbit/s)
- Flow 3 ingress (mean 1.89 Mbit/s)
- Flow 3 egress (mean 1.76 Mbit/s)

![Per-packet round-trip time](image3)

- Flow 1 (95th percentile 48.63 ms)
- Flow 2 (95th percentile 48.74 ms)
- Flow 3 (95th percentile 48.64 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-02-20 10:57:51
End at: 2019-02-20 10:58:21
Local clock offset: 0.47 ms
Remote clock offset: -6.849 ms

# Below is generated by plot.py at 2019-02-20 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.18 Mbit/s
95th percentile per-packet one-way delay: 28.811 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 51.17 Mbit/s
95th percentile per-packet one-way delay: 28.390 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 44.87 Mbit/s
95th percentile per-packet one-way delay: 28.074 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 33.155 ms
Loss rate: 0.29%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2019-02-20 11:28:16
End at: 2019-02-20 11:28:46
Local clock offset: -0.477 ms
Remote clock offset: -12.888 ms

# Below is generated by plot.py at 2019-02-20 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 32.508 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 32.444 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 32.514 ms
Loss rate: 3.00%
-- Flow 3:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 32.802 ms
Loss rate: 5.31%
Run 4: Report of LEDBAT — Data Link

![Graph 1](image1)

*Flow 1 ingress (mean 6.67 Mbit/s)*
*Flow 1 egress (mean 6.51 Mbit/s)*
*Flow 2 ingress (mean 2.74 Mbit/s)*
*Flow 2 egress (mean 3.14 Mbit/s)*
*Flow 3 ingress (mean 1.92 Mbit/s)*
*Flow 3 egress (mean 1.84 Mbit/s)*

![Graph 2](image2)

*Flow 1 (95th percentile 32.44 ms)*
*Flow 2 (95th percentile 32.51 ms)*
*Flow 3 (95th percentile 32.80 ms)*
Run 5: Statistics of LEDBAT

Start at: 2019-02-20 11:54:48
End at: 2019-02-20 11:55:18
Local clock offset: -1.187 ms
Remote clock offset: -84.048 ms

# Below is generated by plot.py at 2019-02-20 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.40 Mbit/s
95th percentile per-packet one-way delay: 108.883 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 111.115 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 30.28 Mbit/s
95th percentile per-packet one-way delay: 102.865 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 15.79 Mbit/s
95th percentile per-packet one-way delay: 108.280 ms
Loss rate: 0.35%
Run 5: Report of LEDBAT — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 33.00 Mbps)
- Flow 1 egress (mean 33.00 Mbps)
- Flow 2 ingress (mean 30.31 Mbps)
- Flow 2 egress (mean 30.28 Mbps)
- Flow 3 ingress (mean 15.81 Mbps)
- Flow 3 egress (mean 15.79 Mbps)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 111.11 ms)
- Flow 2 (95th percentile 102.86 ms)
- Flow 3 (95th percentile 108.28 ms)
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-20 10:04:42
End at: 2019-02-20 10:05:12
Local clock offset: -1.41 ms
Remote clock offset: -98.378 ms

# Below is generated by plot.py at 2019-02-20 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.08 Mbit/s
95th percentile per-packet one-way delay: 187.591 ms
Loss rate: 14.30%
-- Flow 1:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 119.423 ms
Loss rate: 9.55%
-- Flow 2:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 119.437 ms
Loss rate: 10.05%
-- Flow 3:
Average throughput: 52.58 Mbit/s
95th percentile per-packet one-way delay: 224.355 ms
Loss rate: 16.21%
Run 1: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 5.30 Mbit/s)
- Flow 2 ingress (mean 4.68 Mbit/s)
- Flow 3 ingress (mean 52.54 Mbit/s)
- Flow 1 egress (mean 4.98 Mbit/s)
- Flow 2 egress (mean 4.21 Mbit/s)
- Flow 3 egress (mean 52.58 Mbit/s)

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

- Flow 1 (95th percentile 119.42 ms)
- Flow 2 (95th percentile 119.44 ms)
- Flow 3 (95th percentile 224.35 ms)

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Run 2: Statistics of PCC-Allegro

Start at: 2019-02-20 10:31:59  
End at: 2019-02-20 10:32:29  
Local clock offset: -1.279 ms  
Remote clock offset: -108.359 ms

# Below is generated by plot.py at 2019-02-20 12:18:51  
# Datalink statistics
# Total of 3 flows:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 266.236 ms
Loss rate: 9.39%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 128.093 ms
Loss rate: 8.04%
-- Flow 2:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 128.119 ms
Loss rate: 10.11%
-- Flow 3:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 294.130 ms
Loss rate: 9.60%
Run 2: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 3.97 Mbps)**
- **Flow 1 egress (mean 3.66 Mbps)**
- **Flow 2 ingress (mean 2.08 Mbps)**
- **Flow 2 egress (mean 1.68 Mbps)**
- **Flow 3 ingress (mean 65.06 Mbps)**
- **Flow 3 egress (mean 59.23 Mbps)**

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

- **Flow 1 (95th percentile 128.09 ms)**
- **Flow 2 (95th percentile 128.12 ms)**
- **Flow 3 (95th percentile 294.13 ms)**

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Run 3: Statistics of PCC-Allegro

Start at: 2019-02-20 10:59:07
End at: 2019-02-20 10:59:37
Local clock offset: 2.669 ms
Remote clock offset: -5.451 ms

# Below is generated by plot.py at 2019-02-20 12:19:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.98 Mbit/s
  95th percentile per-packet one-way delay: 1711.303 ms
  Loss rate: 6.86%
-- Flow 1:
  Average throughput: 64.35 Mbit/s
  95th percentile per-packet one-way delay: 1761.775 ms
  Loss rate: 9.54%
-- Flow 2:
  Average throughput: 34.32 Mbit/s
  95th percentile per-packet one-way delay: 34.449 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 17.76 Mbit/s
  95th percentile per-packet one-way delay: 19.507 ms
  Loss rate: 0.32%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-20 11:29:30
End at: 2019-02-20 11:30:00
Local clock offset: -0.949 ms
Remote clock offset: -13.881 ms

# Below is generated by plot.py at 2019-02-20 12:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.21 Mbit/s
95th percentile per-packet one-way delay: 33.161 ms
Loss rate: 17.63%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 33.115 ms
Loss rate: 18.19%
-- Flow 2:
Average throughput: 14.97 Mbit/s
95th percentile per-packet one-way delay: 33.166 ms
Loss rate: 17.50%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 33.180 ms
Loss rate: 18.27%
Run 4: Report of PCC-Allegro — Data Link

![Graph 1](image1.png)

- Flow 1 ingress (mean 2.03 Mbit/s)
- Flow 1 egress (mean 1.66 Mbit/s)
- Flow 2 ingress (mean 18.12 Mbit/s)
- Flow 2 egress (mean 14.97 Mbit/s)
- Flow 3 ingress (mean 2.21 Mbit/s)
- Flow 3 egress (mean 1.81 Mbit/s)

![Graph 2](image2.png)

- Flow 1 (95th percentile 33.12 ms)
- Flow 2 (95th percentile 33.17 ms)
- Flow 3 (95th percentile 33.18 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-20 11:56:01
End at: 2019-02-20 11:56:31
Local clock offset: -3.7 ms
Remote clock offset: -18.707 ms

# Below is generated by plot.py at 2019-02-20 12:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.41 Mbit/s
95th percentile per-packet one-way delay: 31.321 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 31.304 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 17.19 Mbit/s
95th percentile per-packet one-way delay: 31.344 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 31.323 ms
Loss rate: 0.30%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2019-02-20 10:20:22
End at: 2019-02-20 10:20:52
Local clock offset: -0.288 ms
Remote clock offset: -15.151 ms

# Below is generated by plot.py at 2019-02-20 12:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 942.837 ms
Loss rate: 16.49%
-- Flow 1:
Average throughput: 54.28 Mbit/s
95th percentile per-packet one-way delay: 944.068 ms
Loss rate: 19.10%
-- Flow 2:
Average throughput: 22.25 Mbit/s
95th percentile per-packet one-way delay: 42.625 ms
Loss rate: 6.05%
-- Flow 3:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 49.564 ms
Loss rate: 13.53%
Run 1: Report of PCC-Expr — Data Link

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

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

- Flow 1 ingress (mean 67.04 Mbps)
- Flow 1 egress (mean 54.28 Mbps)
- Flow 2 ingress (mean 23.34 Mbps)
- Flow 2 egress (mean 22.25 Mbps)
- Flow 3 ingress (mean 13.49 Mbps)
- Flow 3 egress (mean 11.69 Mbps)
Run 2: Statistics of PCC-Expr

Start at: 2019-02-20 10:47:54
End at: 2019-02-20 10:48:24
Local clock offset: -1.786 ms
Remote clock offset: -6.013 ms

# Below is generated by plot.py at 2019-02-20 12:20:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 55.17 Mbit/s
  95th percentile per-packet one-way delay: 67.204 ms
  Loss rate: 6.95%
-- Flow 1:
  Average throughput: 41.76 Mbit/s
  95th percentile per-packet one-way delay: 80.093 ms
  Loss rate: 6.94%
-- Flow 2:
  Average throughput: 11.39 Mbit/s
  95th percentile per-packet one-way delay: 23.204 ms
  Loss rate: 7.73%
-- Flow 3:
  Average throughput: 18.01 Mbit/s
  95th percentile per-packet one-way delay: 23.227 ms
  Loss rate: 6.05%
Run 2: Report of PCC-Expr — Data Link

![Graph of Throughput (Mbps)]

- Flow 1 ingress (mean 44.82 Mbps)
- Flow 1 egress (mean 41.76 Mbps)
- Flow 2 ingress (mean 12.17 Mbps)
- Flow 2 egress (mean 11.39 Mbps)
- Flow 3 ingress (mean 19.10 Mbps)
- Flow 3 egress (mean 16.01 Mbps)

![Graph of Per-packet round-trip delay (ms)]

- Flow 1 (95th percentile 80.09 ms)
- Flow 2 (95th percentile 23.20 ms)
- Flow 3 (95th percentile 23.23 ms)
Run 3: Statistics of PCC-Expr

Start at: 2019-02-20 11:16:14
End at: 2019-02-20 11:16:44
Local clock offset: -1.175 ms
Remote clock offset: -32.135 ms

# Below is generated by plot.py at 2019-02-20 12:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 49.052 ms
Loss rate: 18.41%
-- Flow 1:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 49.043 ms
Loss rate: 18.06%
-- Flow 2:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 49.064 ms
Loss rate: 23.46%
-- Flow 3:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 49.066 ms
Loss rate: 12.65%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2019-02-20 11:45:02
End at: 2019-02-20 11:45:32
Local clock offset: -2.062 ms
Remote clock offset: -2.62 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.45 Mbit/s
  95th percentile per-packet one-way delay: 1487.882 ms
  Loss rate: 29.31%
-- Flow 1:
  Average throughput: 58.02 Mbit/s
  95th percentile per-packet one-way delay: 742.096 ms
  Loss rate: 37.05%
-- Flow 2:
  Average throughput: 37.48 Mbit/s
  95th percentile per-packet one-way delay: 1507.457 ms
  Loss rate: 13.10%
-- Flow 3:
  Average throughput: 25.85 Mbit/s
  95th percentile per-packet one-way delay: 44.599 ms
  Loss rate: 0.32%
Run 4: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 92.07 Mbit/s)
- Flow 1 egress (mean 58.02 Mbit/s)
- Flow 2 ingress (mean 43.66 Mbit/s)
- Flow 2 egress (mean 37.45 Mbit/s)
- Flow 3 ingress (mean 25.86 Mbit/s)
- Flow 3 egress (mean 25.85 Mbit/s)

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

- Flow 1 (95th percentile 742.10 ms)
- Flow 2 (95th percentile 1567.46 ms)
- Flow 3 (95th percentile 44.60 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-02-20 12:10:38
End at: 2019-02-20 12:11:08
Local clock offset: 12.154 ms
Remote clock offset: -28.241 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.09 Mbit/s
  95th percentile per-packet one-way delay: 906.913 ms
  Loss rate: 21.14%
-- Flow 1:
  Average throughput: 59.24 Mbit/s
  95th percentile per-packet one-way delay: 978.681 ms
  Loss rate: 29.12%
-- Flow 2:
  Average throughput: 37.46 Mbit/s
  95th percentile per-packet one-way delay: 855.900 ms
  Loss rate: 1.17%
-- Flow 3:
  Average throughput: 24.08 Mbit/s
  95th percentile per-packet one-way delay: 68.409 ms
  Loss rate: 0.65%
Run 5: Report of PCC-Expr — Data Link

---

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 83.51 Mbit/s)
- Flow 1 egress (mean 59.24 Mbit/s)
- Flow 2 ingress (mean 37.86 Mbit/s)
- Flow 2 egress (mean 37.46 Mbit/s)
- Flow 3 ingress (mean 24.36 Mbit/s)
- Flow 3 egress (mean 24.08 Mbit/s)

**Delay (ms)**

- Flow 1 (95th percentile 978.68 ms)
- Flow 2 (95th percentile 855.90 ms)
- Flow 3 (95th percentile 68.41 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-20 10:16:17
End at: 2019-02-20 10:16:47
Local clock offset: -0.604 ms
Remote clock offset: -153.965 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.18 Mbit/s
95th percentile per-packet one-way delay: 175.371 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 21.67 Mbit/s
95th percentile per-packet one-way delay: 175.362 ms
Loss rate: 5.52%
-- Flow 2:
Average throughput: 16.39 Mbit/s
95th percentile per-packet one-way delay: 175.432 ms
Loss rate: 9.12%
-- Flow 3:
Average throughput: 13.94 Mbit/s
95th percentile per-packet one-way delay: 175.298 ms
Loss rate: 5.68%
Run 1: Report of QUIC Cubic — Data Link

![Graph showing throughput and packet delay over time for each flow.]

- Flow 1 ingress (mean 22.91 Mbit/s)
- Flow 1 egress (mean 21.67 Mbit/s)
- Flow 2 ingress (mean 18.02 Mbit/s)
- Flow 2 egress (mean 16.39 Mbit/s)
- Flow 3 ingress (mean 14.72 Mbit/s)
- Flow 3 egress (mean 13.94 Mbit/s)

![Graph showing packet delay over time for each flow.]

- Flow 1 (95th percentile 175.36 ms)
- Flow 2 (95th percentile 175.43 ms)
- Flow 3 (95th percentile 175.30 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-20 10:43:37
End at: 2019-02-20 10:44:07
Local clock offset: -1.957 ms
Remote clock offset: -4.627 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.62 Mbit/s
95th percentile per-packet one-way delay: 29.299 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 34.84 Mbit/s
95th percentile per-packet one-way delay: 28.311 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 22.01 Mbit/s
95th percentile per-packet one-way delay: 28.995 ms
Loss rate: 3.21%
-- Flow 3:
Average throughput: 21.60 Mbit/s
95th percentile per-packet one-way delay: 41.022 ms
Loss rate: 5.04%
Run 2: Report of QUIC Cubic — Data Link

Throughput (Mbps)

Time (s)

0  5  10  15  20  25  30

Flow 1 ingress (mean 35.49 Mbps)  Flow 1 egress (mean 34.84 Mbps)
Flow 2 ingress (mean 22.71 Mbps)  Flow 2 egress (mean 22.01 Mbps)
Flow 3 ingress (mean 22.68 Mbps)  Flow 3 egress (mean 21.60 Mbps)

Per packet one way delay (ms)

Time (s)

0  5  10  15  20  25  30

Flow 1 (95th percentile 28.31 ms)  Flow 2 (95th percentile 29.00 ms)  Flow 3 (95th percentile 41.02 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-20 11:10:35  
End at: 2019-02-20 11:11:05  
Local clock offset: 1.752 ms  
Remote clock offset: -8.279 ms

# Below is generated by plot.py at 2019-02-20 12:20:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 11.05 Mbit/s  
95th percentile per-packet one-way delay: 41.134 ms  
Loss rate: 12.13%  
-- Flow 1:  
Average throughput: 4.31 Mbit/s  
95th percentile per-packet one-way delay: 27.755 ms  
Loss rate: 13.51%  
-- Flow 2:  
Average throughput: 5.30 Mbit/s  
95th percentile per-packet one-way delay: 27.712 ms  
Loss rate: 11.38%  
-- Flow 3:  
Average throughput: 9.88 Mbit/s  
95th percentile per-packet one-way delay: 46.010 ms  
Loss rate: 11.06%
Run 3: Report of QUIC Cubic — Data Link

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

Start at: 2019-02-20 11:41:16
End at: 2019-02-20 11:41:46
Local clock offset: -2.787 ms
Remote clock offset: -4.533 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.01 Mbit/s
  95th percentile per-packet one-way delay: 28.360 ms
  Loss rate: 0.30%
-- Flow 1:
  Average throughput: 60.89 Mbit/s
  95th percentile per-packet one-way delay: 27.160 ms
  Loss rate: 0.29%
-- Flow 2:
  Average throughput: 35.20 Mbit/s
  95th percentile per-packet one-way delay: 30.698 ms
  Loss rate: 0.27%
-- Flow 3:
  Average throughput: 23.41 Mbit/s
  95th percentile per-packet one-way delay: 27.808 ms
  Loss rate: 0.44%
Run 4: Report of QUIC Cubic — Data Link

![Graph 1: Throughput (Mbps)]

*Flow 1 ingress (mean 61.02 Mbps)*
*Flow 1 egress (mean 60.89 Mbps)*
*Flow 2 ingress (mean 35.25 Mbps)*
*Flow 2 egress (mean 35.20 Mbps)*
*Flow 3 ingress (mean 23.44 Mbps)*
*Flow 3 egress (mean 23.41 Mbps)*

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

*Flow 1 (95th percentile 27.16 ms)*
*Flow 2 (95th percentile 30.70 ms)*
*Flow 3 (95th percentile 27.81 ms)*
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-20 12:06:52
End at: 2019-02-20 12:07:22
Local clock offset: -0.634 ms
Remote clock offset: -25.934 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.41 Mbit/s
95th percentile per-packet one-way delay: 53.399 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 54.091 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 39.48 Mbit/s
95th percentile per-packet one-way delay: 52.120 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 31.06 Mbit/s
95th percentile per-packet one-way delay: 52.506 ms
Loss rate: 0.54%
Run 5: Report of QUIC Cubic — Data Link

![Graph showing throughput and per-packet one-way latency over time for different flows. The legend indicates the throughput and latency statistics for each flow.]

- Flow 1 ingress (mean 56.93 Mbit/s) and egress (mean 56.91 Mbit/s)
- Flow 2 ingress (mean 39.53 Mbit/s) and egress (mean 39.48 Mbit/s)
- Flow 3 ingress (mean 31.14 Mbit/s) and egress (mean 31.06 Mbit/s)

![Graph showing per-packet one-way latency for each flow over time. The legend indicates the 95th percentile latency for each flow.]

- Flow 1 (95th percentile 54.09 ms)
- Flow 2 (95th percentile 52.12 ms)
- Flow 3 (95th percentile 52.51 ms)
Run 1: Statistics of SCReAM

Start at: 2019-02-20 10:11:22
End at: 2019-02-20 10:11:52
Local clock offset: -0.34 ms
Remote clock offset: -100.482 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 122.126 ms
  Loss rate: 11.60%
-- Flow 1:
  Average throughput: 0.07 Mbit/s
  95th percentile per-packet one-way delay: 122.126 ms
  Loss rate: 12.20%
-- Flow 2:
  Average throughput: 0.07 Mbit/s
  95th percentile per-packet one-way delay: 122.191 ms
  Loss rate: 14.59%
-- Flow 3:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 121.939 ms
  Loss rate: 6.33%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2019-02-20 10:38:50
End at: 2019-02-20 10:39:20
Local clock offset: -4.83 ms
Remote clock offset: -43.154 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 57.991 ms
Loss rate: 7.94%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 57.996 ms
Loss rate: 10.66%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 57.992 ms
Loss rate: 5.42%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 57.895 ms
Loss rate: 6.12%
Run 3: Statistics of SCReAM

Start at: 2019-02-20 11:05:37
End at: 2019-02-20 11:06:07
Local clock offset: 1.917 ms
Remote clock offset: -36.745 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 56.456 ms
Loss rate: 10.39%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 56.485 ms
Loss rate: 12.07%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 56.438 ms
Loss rate: 10.43%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 56.478 ms
Loss rate: 6.60%
Run 4: Statistics of SCReAM

Start at: 2019-02-20 11:36:33
End at: 2019-02-20 11:37:03
Local clock offset: 0.33 ms
Remote clock offset: -31.464 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 46.028 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 46.007 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 46.057 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.054 ms
Loss rate: 0.35%
Run 4: Report of SCReAM — Data Link

![Graph showing throughput and delay over time for different flows with 95th percentile markers.](image-url)
Run 5: Statistics of SCReAM

Start at: 2019-02-20 12:02:06
End at: 2019-02-20 12:02:36
Local clock offset: 21.025 ms
Remote clock offset: -34.795 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 71.855 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 71.858 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 71.833 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 71.880 ms
Loss rate: 4.31%
Run 5: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

Start at: 2019-02-20 10:14:59
End at: 2019-02-20 10:15:29
Local clock offset: 1.884 ms
Remote clock offset: -105.789 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 24.62 Mbit/s
  95th percentile per-packet one-way delay: 137.982 ms
  Loss rate: 12.33%
-- Flow 1:
  Average throughput: 13.35 Mbit/s
  95th percentile per-packet one-way delay: 137.269 ms
  Loss rate: 12.40%
-- Flow 2:
  Average throughput: 12.83 Mbit/s
  95th percentile per-packet one-way delay: 139.231 ms
  Loss rate: 11.47%
-- Flow 3:
  Average throughput: 8.28 Mbit/s
  95th percentile per-packet one-way delay: 137.647 ms
  Loss rate: 14.61%
Run 1: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 15.24 Mbps)
- Flow 1 egress (mean 13.35 Mbps)
- Flow 2 ingress (mean 14.48 Mbps)
- Flow 2 egress (mean 12.83 Mbps)
- Flow 3 ingress (mean 9.68 Mbps)
- Flow 3 egress (mean 8.28 Mbps)

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

- Flow 1 (95th percentile 137.27 ms)
- Flow 2 (95th percentile 139.23 ms)
- Flow 3 (95th percentile 137.65 ms)
Run 2: Statistics of Sprout

Start at: 2019-02-20 10:42:27
End at: 2019-02-20 10:42:57
Local clock offset: -0.369 ms
Remote clock offset: -3.417 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.32 Mbit/s
  95th percentile per-packet one-way delay: 29.551 ms
  Loss rate: 5.26%
-- Flow 1:
  Average throughput: 19.58 Mbit/s
  95th percentile per-packet one-way delay: 28.350 ms
  Loss rate: 5.87%
-- Flow 2:
  Average throughput: 19.89 Mbit/s
  95th percentile per-packet one-way delay: 29.394 ms
  Loss rate: 4.84%
-- Flow 3:
  Average throughput: 19.72 Mbit/s
  95th percentile per-packet one-way delay: 31.879 ms
  Loss rate: 4.27%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-02-20 11:09:12
End at: 2019-02-20 11:09:42
Local clock offset: 0.918 ms
Remote clock offset: -32.051 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 24.02 Mbit/s
  95th percentile per-packet one-way delay: 56.587 ms
  Loss rate: 13.15%
-- Flow 1:
  Average throughput: 12.38 Mbit/s
  95th percentile per-packet one-way delay: 56.032 ms
  Loss rate: 12.53%
-- Flow 2:
  Average throughput: 9.81 Mbit/s
  95th percentile per-packet one-way delay: 55.984 ms
  Loss rate: 15.09%
-- Flow 3:
  Average throughput: 15.53 Mbit/s
  95th percentile per-packet one-way delay: 58.272 ms
  Loss rate: 12.09%
Run 3: Report of Sprout — Data Link

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**Throughput (Mbps)**

**Time (s)**

- **Flow 1 ingress (mean 14.14 Mbps)**
- **Flow 1 egress (mean 12.38 Mbps)**
- **Flow 2 ingress (mean 11.54 Mbps)**
- **Flow 2 egress (mean 9.81 Mbps)**
- **Flow 3 ingress (mean 17.59 Mbps)**
- **Flow 3 egress (mean 15.53 Mbps)**

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

**Time (s)**

- **Flow 1 (95th percentile 56.03 ms)**
- **Flow 2 (95th percentile 55.98 ms)**
- **Flow 3 (95th percentile 58.27 ms)**
Run 4: Statistics of Sprout

Start at: 2019-02-20 11:40:07
End at: 2019-02-20 11:40:37
Local clock offset: -2.454 ms
Remote clock offset: -2.199 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.96 Mbit/s
95th percentile per-packet one-way delay: 23.746 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 23.87 Mbit/s
95th percentile per-packet one-way delay: 23.433 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 24.386 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 23.51 Mbit/s
95th percentile per-packet one-way delay: 23.337 ms
Loss rate: 0.20%
Run 4: Report of Sprout — Data Link

![Graph showing throughput and per-packet end-to-end delay over time for different flows.]
Run 5: Statistics of Sprout

Start at: 2019-02-20 12:05:42
End at: 2019-02-20 12:06:12
Local clock offset: -2.018 ms
Remote clock offset: -19.4 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.36 Mbit/s
95th percentile per-packet one-way delay: 39.125 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 38.489 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 38.999 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 23.94 Mbit/s
95th percentile per-packet one-way delay: 40.410 ms
Loss rate: 0.36%
Run 5: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-20 10:17:37
End at: 2019-02-20 10:18:07
Local clock offset: 1.316 ms
Remote clock offset: -55.361 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.82 Mbit/s
95th percentile per-packet one-way delay: 78.452 ms
Loss rate: 2.46%
-- Flow 1:
Average throughput: 13.80 Mbit/s
95th percentile per-packet one-way delay: 78.327 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 78.573 ms
Loss rate: 4.57%
-- Flow 3:
Average throughput: 19.00 Mbit/s
95th percentile per-packet one-way delay: 78.361 ms
Loss rate: 1.66%
Run 1: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 14.06 Mbit/s)
- Flow 1 egress (mean 13.80 Mbit/s)
- Flow 2 ingress (mean 8.97 Mbit/s)
- Flow 2 egress (mean 8.58 Mbit/s)
- Flow 3 ingress (mean 19.28 Mbit/s)
- Flow 3 egress (mean 19.00 Mbit/s)
Run 2: Statistics of TaoVA-100x

Start at: 2019-02-20 10:44:55
End at: 2019-02-20 10:45:25
Local clock offset: -1.202 ms
Remote clock offset: -15.828 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.49 Mbit/s
95th percentile per-packet one-way delay: 33.990 ms
Loss rate: 6.72%
-- Flow 1:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 34.223 ms
Loss rate: 11.21%
-- Flow 2:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 33.941 ms
Loss rate: 11.06%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 33.907 ms
Loss rate: 1.79%
Run 2: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 10.40 Mbit/s)
- Flow 1 egress (mean 9.24 Mbit/s)
- Flow 2 ingress (mean 5.91 Mbit/s)
- Flow 2 egress (mean 5.26 Mbit/s)
- Flow 3 ingress (mean 39.01 Mbit/s)
- Flow 3 egress (mean 36.41 Mbit/s)
Run 3: Statistics of TaoVA-100x

Start at: 2019-02-20 11:12:19
End at: 2019-02-20 11:12:49
Local clock offset: 2.187 ms
Remote clock offset: -74.454 ms

# Below is generated by plot.py at 2019-02-20 12:20:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.65 Mbit/s
95th percentile per-packet one-way delay: 94.942 ms
Loss rate: 12.30%
-- Flow 1:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 94.336 ms
Loss rate: 14.63%
-- Flow 2:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 94.181 ms
Loss rate: 8.70%
-- Flow 3:
Average throughput: 14.89 Mbit/s
95th percentile per-packet one-way delay: 96.655 ms
Loss rate: 12.98%
Run 3: Report of TaoVA-100x — Data Link

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 8.65 Mbps)
- **Flow 2 ingress** (mean 9.97 Mbps)
- **Flow 3 ingress** (mean 16.99 Mbps)
- **Flow 1 egress** (mean 7.50 Mbps)
- **Flow 2 egress** (mean 9.13 Mbps)
- **Flow 3 egress** (mean 14.09 Mbps)

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

- **Flow 1** (95th percentile 94.34 ms)
- **Flow 2** (95th percentile 94.18 ms)
- **Flow 3** (95th percentile 96.66 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2019-02-20 11:42:32
End at: 2019-02-20 11:43:02
Local clock offset: -0.428 ms
Remote clock offset: -19.241 ms

# Below is generated by plot.py at 2019-02-20 12:22:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 90.69 Mbit/s
  95th percentile per-packet one-way delay: 131.291 ms
  Loss rate: 0.33%
-- Flow 1:
  Average throughput: 51.75 Mbit/s
  95th percentile per-packet one-way delay: 131.111 ms
  Loss rate: 0.30%
-- Flow 2:
  Average throughput: 35.69 Mbit/s
  95th percentile per-packet one-way delay: 178.090 ms
  Loss rate: 0.37%
-- Flow 3:
  Average throughput: 45.70 Mbit/s
  95th percentile per-packet one-way delay: 65.678 ms
  Loss rate: 0.40%
Run 4: Report of TaoVA-100x — Data Link

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

![Graph 2: Latency](image2.png)
Run 5: Statistics of TaoVA-100x

Start at: 2019-02-20 12:08:05
End at: 2019-02-20 12:08:35
Local clock offset: 0.488 ms
Remote clock offset: -3.569 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.96 Mbit/s
95th percentile per-packet one-way delay: 150.190 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 55.24 Mbit/s
95th percentile per-packet one-way delay: 148.438 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 150.945 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 151.948 ms
Loss rate: 2.93%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

Start at: 2019-02-20 10:13:48
End at: 2019-02-20 10:14:18
Local clock offset: 1.732 ms
Remote clock offset: -142.089 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.39 Mbit/s
95th percentile per-packet one-way delay: 177.846 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 165.722 ms
Loss rate: 2.79%
-- Flow 2:
Average throughput: 5.66 Mbit/s
95th percentile per-packet one-way delay: 219.242 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 165.713 ms
Loss rate: 1.99%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2019-02-20 10:41:13
End at: 2019-02-20 10:41:43
Local clock offset: -1.731 ms
Remote clock offset: -4.573 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 12.61 Mbit/s
  95th percentile per-packet one-way delay: 22.475 ms
  Loss rate: 2.23%
-- Flow 1:
  Average throughput: 4.53 Mbit/s
  95th percentile per-packet one-way delay: 22.302 ms
  Loss rate: 2.94%
-- Flow 2:
  Average throughput: 4.23 Mbit/s
  95th percentile per-packet one-way delay: 22.348 ms
  Loss rate: 3.39%
-- Flow 3:
  Average throughput: 15.91 Mbit/s
  95th percentile per-packet one-way delay: 25.314 ms
  Loss rate: 0.96%
Run 2: Report of TCP Vegas — Data Link

The diagrams show the throughput and per-packet round-trip delay over time for three flows. The throughput graphs display the mean transfer rates for ingress and egress traffic, while the delay graphs illustrate the 95th percentile values for each flow. The data suggests variability in both throughput and delay, particularly around the 20-second mark.
Run 3: Statistics of TCP Vegas

Start at: 2019-02-20 11:08:00
End at: 2019-02-20 11:08:30
Local clock offset: 0.049 ms
Remote clock offset: -7.105 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 26.418 ms
Loss rate: 7.98%
-- Flow 1:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 36.207 ms
Loss rate: 8.83%
-- Flow 2:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 24.765 ms
Loss rate: 6.29%
-- Flow 3:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 24.673 ms
Loss rate: 7.96%
Run 3: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 3.31 Mbit/s)**
- **Flow 1 egress (mean 3.08 Mbit/s)**
- **Flow 2 ingress (mean 2.60 Mbit/s)**
- **Flow 2 egress (mean 2.50 Mbit/s)**
- **Flow 3 ingress (mean 2.31 Mbit/s)**
- **Flow 3 egress (mean 2.25 Mbit/s)**

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

- **Flow 1 (95th percentile 36.21 ms)**
- **Flow 2 (95th percentile 24.77 ms)**
- **Flow 3 (95th percentile 24.67 ms)**
Run 4: Statistics of TCP Vegas

Start at: 2019-02-20 11:38:54
End at: 2019-02-20 11:39:24
Local clock offset: -1.059 ms
Remote clock offset: -47.167 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.29 Mbit/s
95th percentile per-packet one-way delay: 62.865 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 50.77 Mbit/s
95th percentile per-packet one-way delay: 62.844 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 44.97 Mbit/s
95th percentile per-packet one-way delay: 62.708 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 37.82 Mbit/s
95th percentile per-packet one-way delay: 63.036 ms
Loss rate: 0.27%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-02-20 12:04:28
End at: 2019-02-20 12:04:58
Local clock offset: 18.549 ms
Remote clock offset: -70.465 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.00 Mbit/s
95th percentile per-packet one-way delay: 106.268 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 105.710 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 52.39 Mbit/s
95th percentile per-packet one-way delay: 106.482 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 13.93 Mbit/s
95th percentile per-packet one-way delay: 106.404 ms
Loss rate: 0.60%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-02-20 10:18:52
End at: 2019-02-20 10:19:22
Local clock offset: -1.701 ms
Remote clock offset: -36.922 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.03 Mbit/s
95th percentile per-packet one-way delay: 120.923 ms
Loss rate: 7.45%
-- Flow 1:
Average throughput: 37.29 Mbit/s
95th percentile per-packet one-way delay: 106.594 ms
Loss rate: 9.40%
-- Flow 2:
Average throughput: 34.77 Mbit/s
95th percentile per-packet one-way delay: 167.832 ms
Loss rate: 6.10%
-- Flow 3:
Average throughput: 31.74 Mbit/s
95th percentile per-packet one-way delay: 190.290 ms
Loss rate: 2.90%
Run 2: Statistics of Verus

Start at: 2019-02-20 10:46:10
End at: 2019-02-20 10:46:40
Local clock offset: -0.831 ms
Remote clock offset: -4.721 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.01 Mbit/s
  95th percentile per-packet one-way delay: 85.817 ms
  Loss rate: 6.79%
-- Flow 1:
  Average throughput: 45.31 Mbit/s
  95th percentile per-packet one-way delay: 99.151 ms
  Loss rate: 6.01%
-- Flow 2:
  Average throughput: 30.44 Mbit/s
  95th percentile per-packet one-way delay: 76.134 ms
  Loss rate: 9.13%
-- Flow 3:
  Average throughput: 34.52 Mbit/s
  95th percentile per-packet one-way delay: 52.218 ms
  Loss rate: 5.61%
Run 2: Report of Verus — Data Link

![Graphs showing network traffic and packet delay](image)

- **Flow 1 ingress (mean 48.16 Mbit/s)**
- **Flow 1 egress (mean 45.31 Mbit/s)**
- **Flow 2 ingress (mean 33.58 Mbit/s)**
- **Flow 2 egress (mean 30.44 Mbit/s)**
- **Flow 3 ingress (mean 36.45 Mbit/s)**
- **Flow 3 egress (mean 34.52 Mbit/s)**

**Per-packet one way delay (ms):**
- **Flow 1 (95th percentile 99.15 ms)**
- **Flow 2 (95th percentile 76.13 ms)**
- **Flow 3 (95th percentile 52.22 ms)**
Run 3: Statistics of Verus

Start at: 2019-02-20 11:14:14
End at: 2019-02-20 11:14:44
Local clock offset: -0.796 ms
Remote clock offset: -5.328 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.01 Mbit/s
95th percentile per-packet one-way delay: 95.021 ms
Loss rate: 19.81%
-- Flow 1:
Average throughput: 37.28 Mbit/s
95th percentile per-packet one-way delay: 90.678 ms
Loss rate: 21.59%
-- Flow 2:
Average throughput: 20.02 Mbit/s
95th percentile per-packet one-way delay: 123.941 ms
Loss rate: 19.03%
-- Flow 3:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 81.954 ms
Loss rate: 11.17%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2019-02-20 11:43:50
End at: 2019-02-20 11:44:20
Local clock offset: -0.68 ms
Remote clock offset: -5.458 ms

# Below is generated by plot.py at 2019-02-20 12:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.03 Mbit/s
95th percentile per-packet one-way delay: 57.129 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 45.45 Mbit/s
95th percentile per-packet one-way delay: 55.040 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 35.65 Mbit/s
95th percentile per-packet one-way delay: 62.244 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 29.17 Mbit/s
95th percentile per-packet one-way delay: 54.862 ms
Loss rate: 0.69%
Run 4: Report of Verus — Data Link

![Graph of throughput](image1)

![Graph of per-packet end-to-end delay](image2)
Run 5: Statistics of Verus

Start at: 2019-02-20 12:09:23
End at: 2019-02-20 12:09:53
Local clock offset: 0.336 ms
Remote clock offset: -17.866 ms

# Below is generated by plot.py at 2019-02-20 12:22:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.09 Mbit/s
95th percentile per-packet one-way delay: 90.200 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 57.10 Mbit/s
95th percentile per-packet one-way delay: 85.862 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 79.664 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 31.22 Mbit/s
95th percentile per-packet one-way delay: 234.155 ms
Loss rate: 0.83%
Run 5: Report of Verus — Data Link
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-20 10:00:54
End at: 2019-02-20 10:01:24
Local clock offset: -1.35 ms
Remote clock offset: -60.183 ms

# Below is generated by plot.py at 2019-02-20 12:22:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 14.19 Mbit/s
  95th percentile per-packet one-way delay: 81.418 ms
  Loss rate: 3.72%
-- Flow 1:
  Average throughput: 7.78 Mbit/s
  95th percentile per-packet one-way delay: 81.400 ms
  Loss rate: 3.21%
-- Flow 2:
  Average throughput: 6.69 Mbit/s
  95th percentile per-packet one-way delay: 81.464 ms
  Loss rate: 4.88%
-- Flow 3:
  Average throughput: 5.96 Mbit/s
  95th percentile per-packet one-way delay: 81.395 ms
  Loss rate: 3.09%
Run 1: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps)]

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

Start at: 2019-02-20 10:28:19
End at: 2019-02-20 10:28:49
Local clock offset: -1.227 ms
Remote clock offset: -52.796 ms

# Below is generated by plot.py at 2019-02-20 12:22:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 97.166 ms
Loss rate: 28.30%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 99.309 ms
Loss rate: 30.52%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 73.505 ms
Loss rate: 20.53%
-- Flow 3:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 73.475 ms
Loss rate: 21.39%
Run 2: Report of PCC-Vivace — Data Link

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

**Graph 1:**
- **Throughput (Mbps)**
- **Time (s)**

- Flow 1 ingress (mean 1.52 Mbit/s)
- Flow 1 egress (mean 1.06 Mbit/s)
- Flow 2 ingress (mean 1.38 Mbit/s)
- Flow 2 egress (mean 1.10 Mbit/s)
- Flow 3 ingress (mean 1.75 Mbit/s)
- Flow 3 egress (mean 1.39 Mbit/s)

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

**Graph 2:**
- **Per packet one way delay (ms)**
- **Time (s)**

- Flow 1 (95th percentile 99.31 ms)
- Flow 2 (95th percentile 73.50 ms)
- Flow 3 (95th percentile 73.47 ms)

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Run 3: Statistics of PCC-Vivace

End at: 2019-02-20 10:55:53
Local clock offset: -0.134 ms
Remote clock offset: -5.809 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.93 Mbit/s
95th percentile per-packet one-way delay: 532.880 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 619.293 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 35.03 Mbit/s
95th percentile per-packet one-way delay: 38.352 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 16.10 Mbit/s
95th percentile per-packet one-way delay: 19.297 ms
Loss rate: 0.29%
Run 3: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 56.66 Mb/s)**
- **Flow 1 egress (mean 56.33 Mb/s)**
- **Flow 2 ingress (mean 35.05 Mb/s)**
- **Flow 2 egress (mean 35.03 Mb/s)**
- **Flow 3 ingress (mean 16.10 Mb/s)**
- **Flow 3 egress (mean 16.10 Mb/s)**

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

- **Flow 1 (95th percentile 619.29 ms)**
- **Flow 2 (95th percentile 38.35 ms)**
- **Flow 3 (95th percentile 19.30 ms)**
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-20 11:25:41
End at: 2019-02-20 11:26:11
Local clock offset: 2.982 ms
Remote clock offset: -49.176 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 71.752 ms
Loss rate: 15.71%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 71.735 ms
Loss rate: 16.23%
-- Flow 2:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 71.762 ms
Loss rate: 14.60%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 71.793 ms
Loss rate: 17.62%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-20 11:52:21
End at: 2019-02-20 11:52:51
Local clock offset: -0.648 ms
Remote clock offset: -19.511 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 73.557 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 25.89 Mbit/s
95th percentile per-packet one-way delay: 117.379 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 26.93 Mbit/s
95th percentile per-packet one-way delay: 70.280 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 36.130 ms
Loss rate: 0.66%
Run 5: Report of PCC-Vivace — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 25.90 Mbps)
- Flow 2 ingress (mean 27.02 Mbps)
- Flow 3 ingress (mean 9.73 Mbps)
- Flow 1 egress (mean 25.89 Mbps)
- Flow 2 egress (mean 26.93 Mbps)
- Flow 3 egress (mean 9.69 Mbps)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 117.38 ms)
- Flow 2 (95th percentile 70.28 ms)
- Flow 3 (95th percentile 36.13 ms)
Run 1: Statistics of WebRTC media

Start at: 2019-02-20 09:56:45
End at: 2019-02-20 09:57:15
Local clock offset: 1.426 ms
Remote clock offset: -101.994 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 126.499 ms
Loss rate: 18.84%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 126.487 ms
Loss rate: 18.48%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 126.412 ms
Loss rate: 22.81%
-- Flow 3:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 126.663 ms
Loss rate: 17.60%
Run 1: Report of WebRTC media — Data Link

![Data Link Throughput Graph]

![Data Link Per-Packet Round-Trip Time Graph]
Run 2: Statistics of WebRTC media

Start at: 2019-02-20 10:24:21
End at: 2019-02-20 10:24:51
Local clock offset: -0.503 ms
Remote clock offset: -34.002 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 55.364 ms
Loss rate: 8.44%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 55.363 ms
Loss rate: 11.67%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 55.333 ms
Loss rate: 3.13%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 55.432 ms
Loss rate: 5.65%
Run 2: Report of WebRTC media — Data Link

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

- **Flow 1 ingress** (mean 2.27 Mbit/s)
- **Flow 1 egress** (mean 2.01 Mbit/s)
- **Flow 2 ingress** (mean 1.01 Mbit/s)
- **Flow 2 egress** (mean 0.98 Mbit/s)
- **Flow 3 ingress** (mean 0.72 Mbit/s)
- **Flow 3 egress** (mean 0.68 Mbit/s)

**Throughput (Mbps)** vs **Time (s)**

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

- **Flow 1** (95th percentile 55.36 ms)
- **Flow 2** (95th percentile 55.33 ms)
- **Flow 3** (95th percentile 55.43 ms)
Run 3: Statistics of WebRTC media

Start at: 2019-02-20 10:51:51
End at: 2019-02-20 10:52:21
Local clock offset: -0.535 ms
Remote clock offset: -7.913 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.96 Mbit/s
  95th percentile per-packet one-way delay: 18.471 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 1.61 Mbit/s
  95th percentile per-packet one-way delay: 18.478 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.92 Mbit/s
  95th percentile per-packet one-way delay: 18.328 ms
  Loss rate: 0.37%
-- Flow 3:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 18.627 ms
  Loss rate: 0.80%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-02-20 11:20:52
End at: 2019-02-20 11:21:22
Local clock offset: -0.946 ms
Remote clock offset: -84.488 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.90 Mbit/s
  95th percentile per-packet one-way delay: 102.513 ms
  Loss rate: 18.77%
-- Flow 1:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 102.391 ms
  Loss rate: 17.31%
-- Flow 2:
  Average throughput: 1.22 Mbit/s
  95th percentile per-packet one-way delay: 102.580 ms
  Loss rate: 19.93%
-- Flow 3:
  Average throughput: 0.29 Mbit/s
  95th percentile per-packet one-way delay: 102.459 ms
  Loss rate: 15.70%
Run 4: Report of WebRTC media — Data Link

![Graph of network throughput and latency for different flows. The graphs show the throughput over time for each flow, with distinct lines for different ingress and egress rates. Similarly, the second graph illustrates the per-packet one-way delay for each flow, with different markers for the 95th percentile delay.]
Run 5: Statistics of WebRTC media

Start at: 2019-02-20 11:48:49
End at: 2019-02-20 11:49:19
Local clock offset: -2.278 ms
Remote clock offset: -9.316 ms

# Below is generated by plot.py at 2019-02-20 12:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 24.151 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 24.218 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 24.109 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 23.963 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 1.62 Mbit/s)
- Flow 1 egress (mean 1.62 Mbit/s)
- Flow 2 ingress (mean 0.94 Mbit/s)
- Flow 2 egress (mean 0.94 Mbit/s)
- Flow 3 ingress (mean 0.37 Mbit/s)
- Flow 3 egress (mean 0.38 Mbit/s)

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

- Flow 1 (95th percentile 24.22 ms)
- Flow 2 (95th percentile 24.11 ms)
- Flow 3 (95th percentile 23.96 ms)