Pantheon Report

Generated at 2019-03-28 02:42:22 (UTC).
Data path: GCE Tokyo on ens4 (remote) → GCE Sydney on ens4 (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 time.google.com and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1028-gcp
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 @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943bab52d2b90d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e694a989e93b032143cedbdf58e662f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906e6b7bcf3cf
third_party/muses @ e722187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f86d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af95f8a0d66d18b623c091a55f6872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8ac08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82473a86b42f1bc8143ebc978f3cfe42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b4471ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9ddde4735770d143a1fa2851
test from GCE Tokyo to GCE Sydney, 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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<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>5</td>
<td>488.88</td>
<td>434.58</td>
<td>394.64</td>
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<td>Copa</td>
<td>5</td>
<td>215.08</td>
<td>222.34</td>
<td>210.17</td>
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<td>TCP Cubic</td>
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<td>469.22</td>
<td>427.40</td>
<td>402.64</td>
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<td>315.00</td>
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Run 1: Statistics of TCP BBR

Start at: 2019-03-27 20:42:08
End at: 2019-03-27 20:42:38
Local clock offset: -0.167 ms
Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 908.49 Mbit/s
   95th percentile per-packet one-way delay: 180.273 ms
   Loss rate: 1.95%
-- Flow 1:
   Average throughput: 488.43 Mbit/s
   95th percentile per-packet one-way delay: 189.024 ms
   Loss rate: 1.86%
-- Flow 2:
   Average throughput: 438.00 Mbit/s
   95th percentile per-packet one-way delay: 161.075 ms
   Loss rate: 1.24%
-- Flow 3:
   Average throughput: 397.75 Mbit/s
   95th percentile per-packet one-way delay: 194.550 ms
   Loss rate: 3.75%
Run 1: Report of TCP BBR — Data Link

![Graph 1](image1.png)

Flow 1 ingress (mean 495.75 Mbit/s) — Flow 1 egress (mean 488.43 Mbit/s)
Flow 2 ingress (mean 440.97 Mbit/s) — Flow 2 egress (mean 438.00 Mbit/s)
Flow 3 ingress (mean 414.34 Mbit/s) — Flow 3 egress (mean 397.75 Mbit/s)

![Graph 2](image2.png)

Flow 1 (95th percentile 189.02 ms) — Flow 2 (95th percentile 161.07 ms) — Flow 3 (95th percentile 194.55 ms)
Run 2: Statistics of TCP BBR

End at: 2019-03-27 21:24:02
Local clock offset: -0.022 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 871.72 Mbit/s
95th percentile per-packet one-way delay: 188.431 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 470.52 Mbit/s
95th percentile per-packet one-way delay: 186.403 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 422.99 Mbit/s
95th percentile per-packet one-way delay: 165.249 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 363.94 Mbit/s
95th percentile per-packet one-way delay: 212.085 ms
Loss rate: 1.44%
Run 2: Report of TCP BBR — Data Link

![Graphs showing network performance metrics](Image)

**Throughput (Mbps):**
- Flow 1 ingress (mean 476.37 Mbps)
- Flow 1 egress (mean 470.52 Mbps)
- Flow 2 ingress (mean 426.98 Mbps)
- Flow 2 egress (mean 422.99 Mbps)
- Flow 3 ingress (mean 364.89 Mbps)
- Flow 3 egress (mean 363.04 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 186.40 ms)
- Flow 2 (95th percentile 165.25 ms)
- Flow 3 (95th percentile 212.09 ms)
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 22:04:51
End at: 2019-03-27 22:05:21
Local clock offset: -0.191 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 867.01 Mbit/s
95th percentile per-packet one-way delay: 205.353 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 441.16 Mbit/s
95th percentile per-packet one-way delay: 212.676 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 433.82 Mbit/s
95th percentile per-packet one-way delay: 184.307 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 422.16 Mbit/s
95th percentile per-packet one-way delay: 204.475 ms
Loss rate: 3.34%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 444.68 Mbit/s)**
- **Flow 1 egress (mean 441.16 Mbit/s)**
- **Flow 2 ingress (mean 436.14 Mbit/s)**
- **Flow 2 egress (mean 433.82 Mbit/s)**
- **Flow 3 ingress (mean 431.70 Mbit/s)**
- **Flow 3 egress (mean 422.16 Mbit/s)**

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

- **Flow 1 (95th percentile 212.68 ms)**
- **Flow 2 (95th percentile 184.31 ms)**
- **Flow 3 (95th percentile 204.47 ms)**
Run 4: Statistics of TCP BBR

Local clock offset: 0.018 ms
Remote clock offset: -0.356 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 885.22 Mbit/s
95th percentile per-packet one-way delay: 172.871 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 464.03 Mbit/s
95th percentile per-packet one-way delay: 179.817 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 437.96 Mbit/s
95th percentile per-packet one-way delay: 116.649 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 394.35 Mbit/s
95th percentile per-packet one-way delay: 177.775 ms
Loss rate: 1.83%
Run 4: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 468.36 Mbit/s)
- Flow 1 egress (mean 464.03 Mbit/s)
- Flow 2 ingress (mean 440.49 Mbit/s)
- Flow 2 egress (mean 437.96 Mbit/s)
- Flow 3 ingress (mean 397.06 Mbit/s)
- Flow 3 egress (mean 394.35 Mbit/s)

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

- Flow 1 (95th percentile 179.82 ms)
- Flow 2 (95th percentile 116.65 ms)
- Flow 3 (95th percentile 177.78 ms)
Run 5: Statistics of TCP BBR

End at: 2019-03-27 23:28:18
Local clock offset: -0.581 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.09 Mbit/s
95th percentile per-packet one-way delay: 201.964 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 480.27 Mbit/s
95th percentile per-packet one-way delay: 193.930 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 440.14 Mbit/s
95th percentile per-packet one-way delay: 176.510 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 395.01 Mbit/s
95th percentile per-packet one-way delay: 228.801 ms
Loss rate: 4.06%
Run 5: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 484.02 Mbit/s)
- Flow 1 egress (mean 480.27 Mbit/s)
- Flow 2 ingress (mean 443.87 Mbit/s)
- Flow 2 egress (mean 440.14 Mbit/s)
- Flow 3 ingress (mean 436.84 Mbit/s)
- Flow 3 egress (mean 395.01 Mbit/s)

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

- Flow 1 (95th percentile 193.93 ms)
- Flow 2 (95th percentile 176.51 ms)
- Flow 3 (95th percentile 228.80 ms)
Run 1: Statistics of Copa

Start at: 2019-03-27 21:00:07
End at: 2019-03-27 21:00:37
Local clock offset: -0.058 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 459.63 Mbit/s
95th percentile per-packet one-way delay: 70.703 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 224.93 Mbit/s
95th percentile per-packet one-way delay: 63.834 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 243.22 Mbit/s
95th percentile per-packet one-way delay: 73.158 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 221.56 Mbit/s
95th percentile per-packet one-way delay: 74.076 ms
Loss rate: 1.24%
Run 1: Report of Copa — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress** (mean 225.04 Mbps)
- **Flow 2 ingress** (mean 243.15 Mbps)
- **Flow 3 ingress** (mean 221.56 Mbps)
- **Flow 1 egress** (mean 224.93 Mbps)
- **Flow 2 egress** (mean 243.22 Mbps)
- **Flow 3 egress** (mean 221.56 Mbps)

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

- **Flow 1** (95th percentile 63.83 ms)
- **Flow 2** (95th percentile 73.16 ms)
- **Flow 3** (95th percentile 74.08 ms)
Run 2: Statistics of Copa

End at: 2019-03-27 21:43:06
Local clock offset: -0.573 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 406.71 Mbit/s
95th percentile per-packet one-way delay: 68.829 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 205.70 Mbit/s
95th percentile per-packet one-way delay: 69.830 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 211.81 Mbit/s
95th percentile per-packet one-way delay: 68.180 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 182.49 Mbit/s
95th percentile per-packet one-way delay: 66.166 ms
Loss rate: 1.60%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Local clock offset: -0.028 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2019-03-28 00:42:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.96 Mbit/s
95th percentile per-packet one-way delay: 68.460 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 232.79 Mbit/s
95th percentile per-packet one-way delay: 69.425 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 202.69 Mbit/s
95th percentile per-packet one-way delay: 67.049 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 180.19 Mbit/s
95th percentile per-packet one-way delay: 68.551 ms
Loss rate: 1.31%
Run 3: Report of Copa — Data Link

![Graph showing network throughput and packet delay over time. The graphs compare the ingress and egress throughput for different flows, and the packet delay shows variability over time.](image-url)
Run 4: Statistics of Copa

Start at: 2019-03-27 23:04:30
End at: 2019-03-27 23:05:00
Local clock offset: -0.051 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2019-03-28 00:54:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.42 Mbit/s
95th percentile per-packet one-way delay: 73.727 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 193.27 Mbit/s
95th percentile per-packet one-way delay: 72.642 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 256.26 Mbit/s
95th percentile per-packet one-way delay: 69.969 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 220.74 Mbit/s
95th percentile per-packet one-way delay: 77.597 ms
Loss rate: 1.25%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2019-03-27 23:45:53
Local clock offset: -0.175 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-03-28 00:54:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 431.11 Mbit/s
95th percentile per-packet one-way delay: 70.834 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 218.72 Mbit/s
95th percentile per-packet one-way delay: 65.236 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 197.73 Mbit/s
95th percentile per-packet one-way delay: 69.797 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 245.86 Mbit/s
95th percentile per-packet one-way delay: 78.427 ms
Loss rate: 1.29%
Run 5: Report of Copa — Data Link

![Graph showing throughput and per-packet one way delay over time for different flows.]
Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 20:53:22
End at: 2019-03-27 20:53:52
Local clock offset: -0.001 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-03-28 00:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 823.28 Mbit/s
95th percentile per-packet one-way delay: 95.738 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 413.84 Mbit/s
95th percentile per-packet one-way delay: 75.795 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 413.67 Mbit/s
95th percentile per-packet one-way delay: 96.989 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 407.53 Mbit/s
95th percentile per-packet one-way delay: 109.046 ms
Loss rate: 1.65%
Run 1: Report of TCP Cubic — Data Link

![Graph showing TCP Cubic data link performance over time with throughput and packet round-trip time metrics.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 413.65 Mbps)
  - Flow 1 egress (mean 413.84 Mbps)
  - Flow 2 ingress (mean 413.30 Mbps)
  - Flow 2 egress (mean 413.67 Mbps)
  - Flow 3 ingress (mean 409.63 Mbps)
  - Flow 3 egress (mean 407.53 Mbps)

- **Packet round-trip time (ms):**
  - Flow 1 (95th percentile 75.80 ms)
  - Flow 2 (95th percentile 96.99 ms)
  - Flow 3 (95th percentile 109.05 ms)
Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 21:35:47
End at: 2019-03-27 21:36:17
Local clock offset: 0.083 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2019-03-28 00:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 865.26 Mbit/s
95th percentile per-packet one-way delay: 111.408 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 474.42 Mbit/s
95th percentile per-packet one-way delay: 116.190 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 371.12 Mbit/s
95th percentile per-packet one-way delay: 85.498 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 437.36 Mbit/s
95th percentile per-packet one-way delay: 109.579 ms
Loss rate: 1.57%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Local clock offset: 0.068 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2019-03-28 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 931.47 Mbit/s
95th percentile per-packet one-way delay: 92.253 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 492.59 Mbit/s
95th percentile per-packet one-way delay: 91.410 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 461.51 Mbit/s
95th percentile per-packet one-way delay: 74.108 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 400.34 Mbit/s
95th percentile per-packet one-way delay: 109.893 ms
Loss rate: 1.44%
Run 3: Report of TCP Cubic — Data Link

![Graph of Throughput vs Time for Flow 1 and Flow 2 ingress, and Flow 1 and Flow 2 egress with mean speeds.]

![Graph of Per-packet one-way delay vs Time for Flow 1, Flow 2, and Flow 3 with 95th percentiles.]

Mean speeds:
- Flow 1 ingress: 492.49 Mbit/s
- Flow 1 egress: 492.59 Mbit/s
- Flow 2 ingress: 461.88 Mbit/s
- Flow 2 egress: 461.51 Mbit/s
- Flow 3 ingress: 400.38 Mbit/s
- Flow 3 egress: 400.34 Mbit/s

95th percentiles:
- Flow 1: 91.41 ms
- Flow 2: 74.11 ms
- Flow 3: 109.89 ms
Run 4: Statistics of TCP Cubic

End at: 2019-03-27 22:58:21
Local clock offset: 0.096 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-03-28 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 895.26 Mbit/s
95th percentile per-packet one-way delay: 100.025 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 496.70 Mbit/s
95th percentile per-packet one-way delay: 84.501 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 403.92 Mbit/s
95th percentile per-packet one-way delay: 116.533 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 394.14 Mbit/s
95th percentile per-packet one-way delay: 104.383 ms
Loss rate: 1.46%
Run 4: Report of TCP Cubic — Data Link

[Graphs showing throughput and per-packet one-way delay]

Flow 1 ingress (mean 496.84 Mbit/s)  
Flow 1 egress (mean 496.70 Mbit/s)  
Flow 2 ingress (mean 403.22 Mbit/s)  
Flow 2 egress (mean 403.92 Mbit/s)  
Flow 3 ingress (mean 395.38 Mbit/s)  
Flow 3 egress (mean 394.14 Mbit/s)  

Flow 1 (95th percentile 84.50 ms)  
Flow 2 (95th percentile 116.53 ms)  
Flow 3 (95th percentile 104.38 ms)
Run 5: Statistics of TCP Cubic

Local clock offset: -0.621 ms
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2019-03-28 00:58:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 915.38 Mbit/s
95th percentile per-packet one-way delay: 143.736 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 468.53 Mbit/s
95th percentile per-packet one-way delay: 85.230 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 486.79 Mbit/s
95th percentile per-packet one-way delay: 164.046 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 373.84 Mbit/s
95th percentile per-packet one-way delay: 115.473 ms
Loss rate: 1.18%
Run 5: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 469.12 Mbit/s)
- Flow 1 egress (mean 468.53 Mbit/s)
- Flow 2 ingress (mean 488.24 Mbit/s)
- Flow 2 egress (mean 486.79 Mbit/s)
- Flow 3 ingress (mean 373.80 Mbit/s)
- Flow 3 egress (mean 373.64 Mbit/s)

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

- Flow 1 (95th percentile 85.23 ms)
- Flow 2 (95th percentile 164.05 ms)
- Flow 3 (95th percentile 115.47 ms)
Run 1: Statistics of FillP

Start at: 2019-03-27 21:06:51
End at: 2019-03-27 21:07:21
Local clock offset: 0.156 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2019-03-28 01:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 856.56 Mbit/s
95th percentile per-packet one-way delay: 80.790 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 523.44 Mbit/s
95th percentile per-packet one-way delay: 90.441 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 371.85 Mbit/s
95th percentile per-packet one-way delay: 63.471 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 261.94 Mbit/s
95th percentile per-packet one-way delay: 66.133 ms
Loss rate: 1.39%
Run 1: Report of FillP — Data Link

![Graph 1: Network Throughput](image)

- Flow 1 Ingress (mean 523.68 Mbit/s)
- Flow 1 Egress (mean 523.44 Mbit/s)
- Flow 2 Ingress (mean 371.54 Mbit/s)
- Flow 2 Egress (mean 371.85 Mbit/s)
- Flow 3 Ingress (mean 261.98 Mbit/s)
- Flow 3 Egress (mean 261.94 Mbit/s)

![Graph 2: Network Delay](image)

- Flow 1 (95th percentile 90.44 ms)
- Flow 2 (95th percentile 63.47 ms)
- Flow 3 (95th percentile 66.13 ms)
Run 2: Statistics of FillP

End at: 2019-03-27 21:49:08
Local clock offset: -0.557 ms
Remote clock offset: 0.068 ms

# Below is generated by plot.py at 2019-03-28 01:11:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 842.71 Mbit/s
95th percentile per-packet one-way delay: 92.904 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 519.93 Mbit/s
95th percentile per-packet one-way delay: 101.059 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 351.98 Mbit/s
95th percentile per-packet one-way delay: 65.344 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 270.29 Mbit/s
95th percentile per-packet one-way delay: 62.183 ms
Loss rate: 1.42%
Run 2: Report of FillP — Data Link

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

Legend:
- Flow 1 ingress (mean 520.59 Mbit/s)
- Flow 1 egress (mean 519.93 Mbit/s)
- Flow 2 ingress (mean 352.21 Mbit/s)
- Flow 2 egress (mean 351.96 Mbit/s)
- Flow 3 ingress (mean 271.05 Mbit/s)
- Flow 3 egress (mean 270.29 Mbit/s)
Run 3: Statistics of FillP

Start at: 2019-03-27 22:30:07
End at: 2019-03-27 22:30:37
Local clock offset: -0.204 ms
Remote clock offset: -0.278 ms

# Below is generated by plot.py at 2019-03-28 01:12:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 846.91 Mbit/s
95th percentile per-packet one-way delay: 88.901 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 537.52 Mbit/s
95th percentile per-packet one-way delay: 93.391 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 334.47 Mbit/s
95th percentile per-packet one-way delay: 62.733 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 265.29 Mbit/s
95th percentile per-packet one-way delay: 63.555 ms
Loss rate: 1.09%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2019-03-27 23:10:50
End at: 2019-03-27 23:11:20
Local clock offset: 0.016 ms
Remote clock offset: -0.466 ms

# Below is generated by plot.py at 2019-03-28 01:13:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 842.49 Mbit/s
  95th percentile per-packet one-way delay: 77.650 ms
  Loss rate: 0.41%
-- Flow 1:
  Average throughput: 529.49 Mbit/s
  95th percentile per-packet one-way delay: 90.823 ms
  Loss rate: 0.23%
-- Flow 2:
  Average throughput: 348.76 Mbit/s
  95th percentile per-packet one-way delay: 67.871 ms
  Loss rate: 0.47%
-- Flow 3:
  Average throughput: 247.28 Mbit/s
  95th percentile per-packet one-way delay: 62.103 ms
  Loss rate: 1.42%
Run 4: Report of FillP — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 529.03 Mbps)
  - Flow 1 Egress (mean 529.49 Mbps)
  - Flow 2 Ingress (mean 348.35 Mbps)
  - Flow 2 Egress (mean 348.76 Mbps)
  - Flow 3 Ingress (mean 247.88 Mbps)
  - Flow 3 Egress (mean 247.28 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 90.82 ms)
  - Flow 2 (95th percentile 67.87 ms)
  - Flow 3 (95th percentile 62.10 ms)
Run 5: Statistics of FillP

Start at: 2019-03-27 23:52:40
End at: 2019-03-27 23:53:10
Local clock offset: 0.022 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2019-03-28 01:14:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 835.09 Mbit/s
95th percentile per-packet one-way delay: 95.448 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 519.01 Mbit/s
95th percentile per-packet one-way delay: 97.618 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 338.59 Mbit/s
95th percentile per-packet one-way delay: 99.504 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 277.74 Mbit/s
95th percentile per-packet one-way delay: 64.449 ms
Loss rate: 1.30%
Run 5: Report of FillP — Data Link

Throughput (Mbits/s)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 518.39 Mbits/s)  Flow 1 egress (mean 519.01 Mbits/s)
Flow 2 ingress (mean 338.26 Mbits/s)  Flow 2 egress (mean 338.59 Mbits/s)
Flow 3 ingress (mean 277.81 Mbits/s)  Flow 3 egress (mean 277.74 Mbits/s)

Per packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 97.62 ms)  Flow 2 (95th percentile 99.50 ms)  Flow 3 (95th percentile 64.45 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 20:51:43
End at: 2019-03-27 20:52:13
Local clock offset: -0.127 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2019-03-28 01:14:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.81 Mbit/s
95th percentile per-packet one-way delay: 68.641 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 90.62 Mbit/s
95th percentile per-packet one-way delay: 91.112 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 316.24 Mbit/s
95th percentile per-packet one-way delay: 63.939 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 240.28 Mbit/s
95th percentile per-packet one-way delay: 65.631 ms
Loss rate: 1.27%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 21:33:29
End at: 2019-03-27 21:33:59
Local clock offset: -0.501 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-03-28 01:14:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 780.22 Mbit/s
  95th percentile per-packet one-way delay: 70.024 ms
  Loss rate: 0.54%
-- Flow 1:
  Average throughput: 498.73 Mbit/s
  95th percentile per-packet one-way delay: 77.082 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 302.54 Mbit/s
  95th percentile per-packet one-way delay: 60.783 ms
  Loss rate: 0.49%
-- Flow 3:
  Average throughput: 244.65 Mbit/s
  95th percentile per-packet one-way delay: 65.669 ms
  Loss rate: 1.15%
Run 2: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 499.34 Mbit/s)
- Flow 1 egress (mean 498.73 Mbit/s)
- Flow 2 ingress (mean 302.35 Mbit/s)
- Flow 2 egress (mean 302.54 Mbit/s)
- Flow 3 ingress (mean 244.02 Mbit/s)
- Flow 3 egress (mean 244.65 Mbit/s)
Run 3: Statistics of FillP-Sheep

End at: 2019-03-27 22:15:02
Local clock offset: -0.176 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-03-28 01:14:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 746.80 Mbit/s
95th percentile per-packet one-way delay: 80.048 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 460.38 Mbit/s
95th percentile per-packet one-way delay: 86.149 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 314.48 Mbit/s
95th percentile per-packet one-way delay: 60.724 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 236.27 Mbit/s
95th percentile per-packet one-way delay: 60.656 ms
Loss rate: 1.33%
Run 3: Report of FillP-Sheep — Data Link

![Graph showing network performance metrics over time]
Run 4: Statistics of FillP-Sheep

End at: 2019-03-27 22:56:07
Local clock offset: -0.284 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-03-28 01:18:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 814.83 Mbit/s
95th percentile per-packet one-way delay: 65.639 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 518.97 Mbit/s
95th percentile per-packet one-way delay: 71.097 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 317.33 Mbit/s
95th percentile per-packet one-way delay: 62.025 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 258.77 Mbit/s
95th percentile per-packet one-way delay: 63.013 ms
Loss rate: 1.10%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 23:37:25
End at: 2019-03-27 23:37:55
Local clock offset: -0.176 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2019-03-28 01:22:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 770.69 Mbit/s
95th percentile per-packet one-way delay: 72.287 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 473.57 Mbit/s
95th percentile per-packet one-way delay: 80.127 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 324.39 Mbit/s
95th percentile per-packet one-way delay: 63.022 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 249.39 Mbit/s
95th percentile per-packet one-way delay: 63.555 ms
Loss rate: 1.03%
Run 5: Report of FillP-Sheep — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)

Flow 1 Ingress (mean 473.07 Mbps) - Flow 1 Egress (mean 473.57 Mbps)
Flow 2 Ingress (mean 324.18 Mbps) - Flow 2 Egress (mean 324.39 Mbps)
Flow 3 Ingress (mean 249.21 Mbps) - Flow 3 Egress (mean 249.39 Mbps)

Flow 1 (95th percentile 80.13 ms) - Flow 2 (95th percentile 63.02 ms) - Flow 3 (95th percentile 63.55 ms)
Run 1: Statistics of Indigo

Start at: 2019-03-27 21:02:35
End at: 2019-03-27 21:03:05
Local clock offset: -0.496 ms
Remote clock offset: 0.074 ms

# Below is generated by plot.py at 2019-03-28 01:24:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 390.69 Mbit/s
  95th percentile per-packet one-way delay: 62.010 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 201.22 Mbit/s
  95th percentile per-packet one-way delay: 62.744 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 195.35 Mbit/s
  95th percentile per-packet one-way delay: 59.693 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 168.25 Mbit/s
  95th percentile per-packet one-way delay: 61.235 ms
  Loss rate: 1.37%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2019-03-27 21:44:47
End at: 2019-03-27 21:45:17
Local clock offset: 0.323 ms
Remote clock offset: 0.079 ms

# Below is generated by plot.py at 2019-03-28 01:24:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 384.02 Mbit/s
  95th percentile per-packet one-way delay: 61.040 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 210.04 Mbit/s
  95th percentile per-packet one-way delay: 60.437 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 179.16 Mbit/s
  95th percentile per-packet one-way delay: 61.988 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 171.03 Mbit/s
  95th percentile per-packet one-way delay: 61.294 ms
  Loss rate: 1.32%
Run 2: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 210.12 Mbit/s)
- Flow 1 egress (mean 210.04 Mbit/s)
- Flow 2 ingress (mean 179.36 Mbit/s)
- Flow 2 egress (mean 179.16 Mbit/s)
- Flow 3 ingress (mean 171.28 Mbit/s)
- Flow 3 egress (mean 171.03 Mbit/s)
Run 3: Statistics of Indigo

Start at: 2019-03-27 22:26:07
End at: 2019-03-27 22:26:37
Local clock offset: -0.226 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-03-28 01:26:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 398.00 Mbit/s
  95th percentile per-packet one-way delay: 60.544 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 218.45 Mbit/s
  95th percentile per-packet one-way delay: 60.892 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 193.50 Mbit/s
  95th percentile per-packet one-way delay: 59.554 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 158.85 Mbit/s
  95th percentile per-packet one-way delay: 60.747 ms
  Loss rate: 1.36%
Run 3: Report of Indigo — Data Link
Run 4: Statistics of Indigo

Start at: 2019-03-27 23:06:45
End at: 2019-03-27 23:07:15
Local clock offset: -0.087 ms
Remote clock offset: -0.017 ms

# Below is generated by plot.py at 2019-03-28 01:26:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.17 Mbit/s
95th percentile per-packet one-way delay: 61.186 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 202.84 Mbit/s
95th percentile per-packet one-way delay: 61.146 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 178.38 Mbit/s
95th percentile per-packet one-way delay: 61.681 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 160.63 Mbit/s
95th percentile per-packet one-way delay: 60.546 ms
Loss rate: 1.41%
Run 4: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 202.73 Mbit/s)
- Flow 1 egress (mean 202.84 Mbit/s)
- Flow 2 ingress (mean 178.38 Mbit/s)
- Flow 2 egress (mean 178.38 Mbit/s)
- Flow 3 ingress (mean 160.98 Mbit/s)
- Flow 3 egress (mean 160.63 Mbit/s)
Run 5: Statistics of Indigo

End at: 2019-03-27 23:48:40
Local clock offset: 0.253 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-03-28 01:26:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.16 Mbit/s
95th percentile per-packet one-way delay: 61.165 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 213.07 Mbit/s
95th percentile per-packet one-way delay: 60.817 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 197.03 Mbit/s
95th percentile per-packet one-way delay: 61.566 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 160.62 Mbit/s
95th percentile per-packet one-way delay: 61.419 ms
Loss rate: 1.24%
Run 5: Report of Indigo — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 212.97 Mbit/s)
- Blue solid line: Flow 1 egress (mean 213.07 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 196.98 Mbit/s)
- Green solid line: Flow 2 egress (mean 197.03 Mbit/s)
- Dark blue dashed line: Flow 3 ingress (mean 160.64 Mbit/s)
- Dark blue solid line: Flow 3 egress (mean 160.62 Mbit/s)

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

Legend:
- Blue asterisk: Flow 1 (95th percentile 60.82 ms)
- Red asterisk: Flow 2 (95th percentile 61.57 ms)
- Green asterisk: Flow 3 (95th percentile 61.42 ms)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 21:09:00
End at: 2019-03-27 21:09:30
Local clock offset: 0.163 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2019-03-28 01:26:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 719.19 Mbit/s
  95th percentile per-packet one-way delay: 64.797 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 407.98 Mbit/s
  95th percentile per-packet one-way delay: 64.279 ms
  Loss rate: 0.29%
-- Flow 2:
  Average throughput: 367.40 Mbit/s
  95th percentile per-packet one-way delay: 67.328 ms
  Loss rate: 0.41%
-- Flow 3:
  Average throughput: 277.34 Mbit/s
  95th percentile per-packet one-way delay: 62.338 ms
  Loss rate: 2.16%
Run 1: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and packet delays over time for different flows. The graphs display the throughput and packet delays for Flow 1, Flow 2, and Flow 3, with each flow's ingress and egress data illustrated.]

- Flow 1 ingress (mean 407.57 Mbit/s)
- Flow 1 egress (mean 407.98 Mbit/s)
- Flow 2 ingress (mean 366.55 Mbit/s)
- Flow 2 egress (mean 367.40 Mbit/s)
- Flow 3 ingress (mean 279.29 Mbit/s)
- Flow 3 egress (mean 277.34 Mbit/s)

![Graph showing per packet one-way delay for different flows. The graph illustrates the delays for Flow 1, Flow 2, and Flow 3, with 95th percentile values for each flow's delays.]
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 21:50:49
End at: 2019-03-27 21:51:19
Local clock offset: -0.134 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2019-03-28 01:31:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.27 Mbit/s
95th percentile per-packet one-way delay: 66.135 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 425.98 Mbit/s
95th percentile per-packet one-way delay: 67.669 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 340.01 Mbit/s
95th percentile per-packet one-way delay: 62.010 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 245.82 Mbit/s
95th percentile per-packet one-way delay: 64.541 ms
Loss rate: 1.97%
Run 2: Report of Indigo-MusesC3 — Data Link
Run 3: Statistics of Indigo-MusesC3

End at: 2019-03-27 22:32:52
Local clock offset: -0.352 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2019-03-28 01:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 715.25 Mbit/s
95th percentile per-packet one-way delay: 69.563 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 426.11 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 367.49 Mbit/s
95th percentile per-packet one-way delay: 72.468 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 198.21 Mbit/s
95th percentile per-packet one-way delay: 59.745 ms
Loss rate: 2.87%
Run 3: Report of Indigo-MusesC3 — Data Link
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 23:13:05
Local clock offset: 0.273 ms
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2019-03-28 01:36:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 699.53 Mbit/s
95th percentile per-packet one-way delay: 72.825 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 405.08 Mbit/s
95th percentile per-packet one-way delay: 75.899 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 348.47 Mbit/s
95th percentile per-packet one-way delay: 64.984 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 264.71 Mbit/s
95th percentile per-packet one-way delay: 67.610 ms
Loss rate: 1.78%
Run 4: Report of Indigo-MusesC3 — Data Link

![Graph of data link performance](image)

![Graph of per-packet delay](image)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 23:54:38
End at: 2019-03-27 23:55:08
Local clock offset: -0.212 ms
Remote clock offset: -0.375 ms

# Below is generated by plot.py at 2019-03-28 01:36:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 708.25 Mbit/s
95th percentile per-packet one-way delay: 70.791 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 417.71 Mbit/s
95th percentile per-packet one-way delay: 73.343 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 359.44 Mbit/s
95th percentile per-packet one-way delay: 70.038 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 219.13 Mbit/s
95th percentile per-packet one-way delay: 60.760 ms
Loss rate: 2.67%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 21:17:46
End at: 2019-03-27 21:18:16
Local clock offset: -0.504 ms
Remote clock offset: 0.694 ms

# Below is generated by plot.py at 2019-03-28 01:37:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 694.72 Mbit/s
95th percentile per-packet one-way delay: 96.710 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 438.08 Mbit/s
95th percentile per-packet one-way delay: 93.794 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 360.42 Mbit/s
95th percentile per-packet one-way delay: 105.323 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 98.26 Mbit/s
95th percentile per-packet one-way delay: 56.875 ms
Loss rate: 1.68%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 21:59:19
End at: 2019-03-27 21:59:49
Local clock offset: -0.267 ms
Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2019-03-28 01:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 729.57 Mbit/s
95th percentile per-packet one-way delay: 84.746 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 439.58 Mbit/s
95th percentile per-packet one-way delay: 82.005 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 417.43 Mbit/s
95th percentile per-packet one-way delay: 88.374 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 83.90 Mbit/s
95th percentile per-packet one-way delay: 60.982 ms
Loss rate: 2.04%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 22:40:44
Local clock offset: -0.195 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2019-03-28 01:38:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 755.36 Mbit/s
95th percentile per-packet one-way delay: 105.622 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 455.18 Mbit/s
95th percentile per-packet one-way delay: 103.144 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 395.57 Mbit/s
95th percentile per-packet one-way delay: 119.872 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 169.82 Mbit/s
95th percentile per-packet one-way delay: 61.062 ms
Loss rate: 3.24%
Run 3: Report of Indigo-MusesC5 — Data Link
Run 4: Statistics of Indigo-MusesC5

Local clock offset: -0.371 ms
Remote clock offset: 0.703 ms

# Below is generated by plot.py at 2019-03-28 01:39:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 749.54 Mbit/s
95th percentile per-packet one-way delay: 83.299 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 465.48 Mbit/s
95th percentile per-packet one-way delay: 80.613 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 407.11 Mbit/s
95th percentile per-packet one-way delay: 88.561 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 57.213 ms
Loss rate: 1.76%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph 1](image1)

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

Start at: 2019-03-28 00:03:06
End at: 2019-03-28 00:03:36
Local clock offset: -0.143 ms
Remote clock offset: -0.344 ms

# Below is generated by plot.py at 2019-03-28 01:44:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.92 Mbit/s
95th percentile per-packet one-way delay: 116.133 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 463.71 Mbit/s
95th percentile per-packet one-way delay: 114.348 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 427.88 Mbit/s
95th percentile per-packet one-way delay: 136.867 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 98.16 Mbit/s
95th percentile per-packet one-way delay: 58.585 ms
Loss rate: 1.79%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 20:57:59
End at: 2019-03-27 20:58:29
Local clock offset: -0.441 ms
Remote clock offset: -0.795 ms

# Below is generated by plot.py at 2019-03-28 01:45:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 640.66 Mbit/s
95th percentile per-packet one-way delay: 67.690 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 362.85 Mbit/s
95th percentile per-packet one-way delay: 67.297 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 331.44 Mbit/s
95th percentile per-packet one-way delay: 73.251 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 240.94 Mbit/s
95th percentile per-packet one-way delay: 60.563 ms
Loss rate: 1.79%
Run 1: Report of Indigo-MusesD — Data Link
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 21:40:34
End at: 2019-03-27 21:41:04
Local clock offset: -0.085 ms
Remote clock offset: -0.661 ms

# Below is generated by plot.py at 2019-03-28 01:46:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 657.36 Mbit/s
95th percentile per-packet one-way delay: 72.141 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 392.99 Mbit/s
95th percentile per-packet one-way delay: 79.161 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 305.96 Mbit/s
95th percentile per-packet one-way delay: 64.632 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 256.68 Mbit/s
95th percentile per-packet one-way delay: 64.918 ms
Loss rate: 2.10%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

Local clock offset: -0.652 ms
Remote clock offset: -0.155 ms

# Below is generated by plot.py at 2019-03-28 01:46:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 624.32 Mbit/s
95th percentile per-packet one-way delay: 64.569 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 345.31 Mbit/s
95th percentile per-packet one-way delay: 61.479 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 333.93 Mbit/s
95th percentile per-packet one-way delay: 69.392 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 240.33 Mbit/s
95th percentile per-packet one-way delay: 60.435 ms
Loss rate: 1.64%
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 23:02:28
End at: 2019-03-27 23:02:58
Local clock offset: -0.539 ms
Remote clock offset: 0.297 ms

# Below is generated by plot.py at 2019-03-28 01:47:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 624.41 Mbit/s
95th percentile per-packet one-way delay: 67.524 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 384.89 Mbit/s
95th percentile per-packet one-way delay: 69.494 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 341.38 Mbit/s
95th percentile per-packet one-way delay: 64.263 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 81.82 Mbit/s
95th percentile per-packet one-way delay: 57.385 ms
Loss rate: 1.62%
Run 4: Report of Indigo-MusesD — Data Link
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 23:43:45
End at: 2019-03-27 23:44:15
Local clock offset: -0.408 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-03-28 01:49:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 698.48 Mbit/s
  95th percentile per-packet one-way delay: 64.385 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 410.80 Mbit/s
  95th percentile per-packet one-way delay: 66.311 ms
  Loss rate: 0.35%
-- Flow 2:
  Average throughput: 337.81 Mbit/s
  95th percentile per-packet one-way delay: 60.437 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 258.91 Mbit/s
  95th percentile per-packet one-way delay: 60.604 ms
  Loss rate: 2.13%
Run 5: Report of Indigo-MusesD — Data Link
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 20:55:45
End at: 2019-03-27 20:56:15
Local clock offset: 0.124 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-03-28 01:50:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 717.74 Mbit/s
95th percentile per-packet one-way delay: 80.020 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 443.45 Mbit/s
95th percentile per-packet one-way delay: 83.690 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 390.56 Mbit/s
95th percentile per-packet one-way delay: 69.232 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 98.02 Mbit/s
95th percentile per-packet one-way delay: 57.956 ms
Loss rate: 1.73%
Run 1: Report of Indigo-MusesT — Data Link

[Graph showing throughput over time for different flows with legends indicating mean throughput and 95th percentile delays.]
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 21:38:11
End at: 2019-03-27 21:38:41
Local clock offset: -0.095 ms
Remote clock offset: -0.183 ms

# Below is generated by plot.py at 2019-03-28 01:52:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 761.41 Mbit/s
95th percentile per-packet one-way delay: 87.563 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 479.23 Mbit/s
95th percentile per-packet one-way delay: 103.728 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 392.44 Mbit/s
95th percentile per-packet one-way delay: 64.478 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 107.87 Mbit/s
95th percentile per-packet one-way delay: 58.366 ms
Loss rate: 1.51%
Run 2: Report of Indigo-MusesT — Data Link

![Graph showing network performance metrics](image1)

![Graph showing packet loss metrics](image2)
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 22:19:05
Local clock offset: ~0.615 ms
Remote clock offset: ~0.158 ms

# Below is generated by plot.py at 2019-03-28 01:57:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 790.08 Mbit/s
95th percentile per-packet one-way delay: 94.228 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 465.64 Mbit/s
95th percentile per-packet one-way delay: 100.680 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 398.09 Mbit/s
95th percentile per-packet one-way delay: 91.108 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 259.32 Mbit/s
95th percentile per-packet one-way delay: 65.969 ms
Loss rate: 1.97%
Run 3: Report of Indigo-MusesT — Data Link

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

**Graph Legend:**
- Flow 1 ingress (mean 464.61 Mbit/s)
- Flow 1 egress (mean 465.64 Mbit/s)
- Flow 2 ingress (mean 397.40 Mbit/s)
- Flow 2 egress (mean 398.09 Mbit/s)
- Flow 3 ingress (mean 260.57 Mbit/s)
- Flow 3 egress (mean 259.32 Mbit/s)

**Packet Delay:**
- Flow 1 (95th percentile 100.68 ms)
- Flow 2 (95th percentile 91.11 ms)
- Flow 3 (95th percentile 65.97 ms)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 23:00:24
End at: 2019-03-27 23:00:54
Local clock offset: 0.058 ms
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2019-03-28 01:57:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 730.28 Mbit/s
95th percentile per-packet one-way delay: 77.321 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 415.16 Mbit/s
95th percentile per-packet one-way delay: 84.026 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 377.97 Mbit/s
95th percentile per-packet one-way delay: 71.125 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 280.30 Mbit/s
95th percentile per-packet one-way delay: 63.947 ms
Loss rate: 1.23%
Run 4: Report of Indigo-MusesT — Data Link

[Graph showing throughput and latency over time for different flows]
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 23:41:43
Local clock offset: -0.163 ms
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 739.07 Mbit/s
95th percentile per-packet one-way delay: 70.795 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 437.99 Mbit/s
95th percentile per-packet one-way delay: 74.541 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 363.30 Mbit/s
95th percentile per-packet one-way delay: 64.909 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 251.31 Mbit/s
95th percentile per-packet one-way delay: 62.296 ms
Loss rate: 2.23%
Run 5: Report of Indigo-MusesT — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 43.16 Mbps)
- Flow 1 egress (mean 43.89 Mbps)
- Flow 2 ingress (mean 363.26 Mbps)
- Flow 2 egress (mean 363.36 Mbps)
- Flow 3 ingress (mean 253.03 Mbps)
- Flow 3 egress (mean 251.31 Mbps)

**Per-packet one way delay (ms)**
- Flow 1 (95th percentile 74.54 ms)
- Flow 2 (95th percentile 64.91 ms)
- Flow 3 (95th percentile 62.30 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 20:50:26
End at: 2019-03-27 20:50:56
Local clock offset: 0.217 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 58.776 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 19.79 Mbit/s
95th percentile per-packet one-way delay: 58.831 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 18.87 Mbit/s
95th percentile per-packet one-way delay: 58.752 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 58.135 ms
Loss rate: 2.01%
Run 1: Report of LEDBAT — Data Link

![Graph of data link throughput over time for three flows: Flow 1 ingress (mean 19.77 Mbit/s), Flow 1 egress (mean 19.79 Mbit/s), Flow 2 ingress (mean 18.98 Mbit/s), Flow 2 egress (mean 18.87 Mbit/s), Flow 3 ingress (mean 7.30 Mbit/s), Flow 3 egress (mean 7.24 Mbit/s).]

![Graph of per-packet round trip delay for three flows: Flow 1 (95th percentile 58.83 ms), Flow 2 (95th percentile 58.75 ms), Flow 3 (95th percentile 58.13 ms).]
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 21:32:08
End at: 2019-03-27 21:32:38
Local clock offset: -0.188 ms
Remote clock offset: -0.191 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.79 Mbit/s
95th percentile per-packet one-way delay: 61.569 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 28.19 Mbit/s
95th percentile per-packet one-way delay: 58.704 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 17.74 Mbit/s
95th percentile per-packet one-way delay: 62.230 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 8.67 Mbit/s
95th percentile per-packet one-way delay: 61.886 ms
Loss rate: 2.42%
Run 2: Report of LEDBAT — Data Link
Run 3: Statistics of LEDBAT

Local clock offset: -0.599 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.54 Mbit/s
95th percentile per-packet one-way delay: 58.509 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 28.08 Mbit/s
95th percentile per-packet one-way delay: 58.528 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 15.73 Mbit/s
95th percentile per-packet one-way delay: 58.506 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 58.286 ms
Loss rate: 2.29%
Run 3: Report of LEDBAT — Data Link

[Diagram showing throughput and latency over time for different flows, with legend indicating Mean Throughput (Mean 28.19 Mbit/s) for Flow 1 Ingress, Mean Throughput (Mean 26.68 Mbit/s) for Flow 1 Egress, Mean Throughput (Mean 15.77 Mbit/s) for Flow 2 Ingress, Mean Throughput (Mean 15.73 Mbit/s) for Flow 2 Egress, Mean Throughput (Mean 9.18 Mbit/s) for Flow 3 Ingress, Mean Throughput (Mean 9.07 Mbit/s) for Flow 3 Egress.]

[Diagram showing per-packet one-way delay, with legend indicating 95th percentile delay for each flow: Flow 1, Flow 2, and Flow 3.]

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Run 4: Statistics of LEDBAT

Start at: 2019-03-27 22:54:19
End at: 2019-03-27 22:54:49
Local clock offset: -0.449 ms
Remote clock offset: -0.017 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 61.612 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 61.817 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 57.917 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 60.884 ms
Loss rate: 2.39%
Run 4: Report of LEDBAT — Data Link

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

Legend:
- Flow 1 ingress (mean 26.69 Mbit/s)
- Flow 1 egress (mean 26.59 Mbit/s)
- Flow 2 ingress (mean 19.01 Mbit/s)
- Flow 2 egress (mean 18.90 Mbit/s)
- Flow 3 ingress (mean 8.94 Mbit/s)
- Flow 3 egress (mean 8.83 Mbit/s)

- Flow 1 (95th percentile 61.82 ms)
- Flow 2 (95th percentile 57.92 ms)
- Flow 3 (95th percentile 60.88 ms)
Run 5: Statistics of LEDBAT

Start at: 2019-03-27 23:36:05
End at: 2019-03-27 23:36:35
Local clock offset: 0.013 ms
Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2019-03-28 01:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 61.667 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 19.48 Mbit/s
95th percentile per-packet one-way delay: 61.892 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 13.94 Mbit/s
95th percentile per-packet one-way delay: 58.802 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 57.977 ms
Loss rate: 2.38%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 20:44:42
End at: 2019-03-27 20:45:12
Local clock offset: -0.169 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-03-28 02:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 668.11 Mbit/s
95th percentile per-packet one-way delay: 195.276 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 350.73 Mbit/s
95th percentile per-packet one-way delay: 214.958 ms
Loss rate: 3.22%
-- Flow 2:
Average throughput: 365.54 Mbit/s
95th percentile per-packet one-way delay: 184.604 ms
Loss rate: 3.48%
-- Flow 3:
Average throughput: 229.16 Mbit/s
95th percentile per-packet one-way delay: 80.481 ms
Loss rate: 1.32%
Run 1: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 360.99 Mbit/s)
- Flow 1 egress (mean 350.73 Mbit/s)
- Flow 2 ingress (mean 376.53 Mbit/s)
- Flow 2 egress (mean 365.54 Mbit/s)
- Flow 3 ingress (mean 229.51 Mbit/s)
- Flow 3 egress (mean 229.16 Mbit/s)
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 21:26:08
End at: 2019-03-27 21:26:38
Local clock offset: -0.487 ms
Remote clock offset: -0.325 ms

# Below is generated by plot.py at 2019-03-28 02:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 621.86 Mbit/s
95th percentile per-packet one-way delay: 179.967 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 342.27 Mbit/s
95th percentile per-packet one-way delay: 197.951 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 303.34 Mbit/s
95th percentile per-packet one-way delay: 77.117 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 239.98 Mbit/s
95th percentile per-packet one-way delay: 187.776 ms
Loss rate: 2.27%
Run 2: Report of PCC-Allegro — Data Link

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

Legend:
- Flow 1 ingress (mean 347.48 Mbit/s)
- Flow 1 egress (mean 342.27 Mbit/s)
- Flow 2 ingress (mean 304.33 Mbit/s)
- Flow 2 egress (mean 303.54 Mbit/s)
- Flow 3 ingress (mean 242.70 Mbit/s)
- Flow 3 egress (mean 239.98 Mbit/s)
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 22:07:30
End at: 2019-03-27 22:08:00
Local clock offset: 0.258 ms
Remote clock offset: -0.201 ms

# Below is generated by plot.py at 2019-03-28 02:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 630.27 Mbit/s
95th percentile per-packet one-way delay: 192.723 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 363.29 Mbit/s
95th percentile per-packet one-way delay: 237.036 ms
Loss rate: 3.12%
-- Flow 2:
Average throughput: 285.19 Mbit/s
95th percentile per-packet one-way delay: 68.205 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 237.81 Mbit/s
95th percentile per-packet one-way delay: 111.671 ms
Loss rate: 1.44%
Run 3: Report of PCC-Allegro — Data Link

![Graphs showing throughput and delay for different flows during Run 3.]

Throughput (Mbps):
- Flow 1 ingress: mean 373.54 Mbps
- Flow 1 egress: mean 363.29 Mbps
- Flow 2 ingress: mean 285.39 Mbps
- Flow 2 egress: mean 285.19 Mbps
- Flow 3 ingress: mean 236.45 Mbps
- Flow 3 egress: mean 237.81 Mbps

Per-packet one-way delay (ms):
- Flow 1 (95th percentile 237.04 ms)
- Flow 2 (95th percentile 68.20 ms)
- Flow 3 (95th percentile 111.67 ms)
Run 4: Statistics of PCC-Allegro

End at: 2019-03-27 22:49:19
Local clock offset: -0.042 ms
Remote clock offset: -0.35 ms

# Below is generated by plot.py at 2019-03-28 02:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 608.57 Mbit/s
95th percentile per-packet one-way delay: 104.717 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 335.06 Mbit/s
95th percentile per-packet one-way delay: 102.728 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 294.53 Mbit/s
95th percentile per-packet one-way delay: 68.785 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 240.15 Mbit/s
95th percentile per-packet one-way delay: 185.170 ms
Loss rate: 3.33%
Run 4: Report of PCC-Allegro — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 335.62 Mb/s)
Flow 1 egress (mean 335.06 Mb/s)
Flow 2 ingress (mean 296.07 Mb/s)
Flow 2 egress (mean 294.53 Mb/s)
Flow 3 ingress (mean 245.99 Mb/s)
Flow 3 egress (mean 240.15 Mb/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 102.73 ms)
Flow 2 (95th percentile 68.78 ms)
Flow 3 (95th percentile 185.17 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 23:30:19
End at: 2019-03-27 23:30:49
Local clock offset: -0.093 ms
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2019-03-28 02:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.42 Mbit/s
95th percentile per-packet one-way delay: 219.964 ms
Loss rate: 10.48%
-- Flow 1:
Average throughput: 400.20 Mbit/s
95th percentile per-packet one-way delay: 240.878 ms
Loss rate: 7.98%
-- Flow 2:
Average throughput: 359.06 Mbit/s
95th percentile per-packet one-way delay: 219.471 ms
Loss rate: 16.85%
-- Flow 3:
Average throughput: 245.48 Mbit/s
95th percentile per-packet one-way delay: 99.900 ms
Loss rate: 1.44%
Run 5: Report of PCC-Allegro — Data Link

![Graph showing throughput and delay for different flows]
Run 1: Statistics of PCC-Expr

End at: 2019-03-27 21:20:29
Local clock offset: -0.083 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-03-28 02:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.24 Mbit/s
95th percentile per-packet one-way delay: 143.278 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 240.86 Mbit/s
95th percentile per-packet one-way delay: 143.362 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 232.45 Mbit/s
95th percentile per-packet one-way delay: 144.665 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 57.836 ms
Loss rate: 1.84%
Run 1: Report of PCC-Expr — Data Link

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 242.68 Mbit/s)
  - Flow 1 egress (mean 240.06 Mbit/s)
  - Flow 2 ingress (mean 233.67 Mbit/s)
  - Flow 2 egress (mean 232.45 Mbit/s)
  - Flow 3 ingress (mean 40.37 Mbit/s)
  - Flow 3 egress (mean 40.09 Mbit/s)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 143.36 ms)
  - Flow 2 (95th percentile 144.66 ms)
  - Flow 3 (95th percentile 57.84 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 22:01:15
End at: 2019-03-27 22:01:45
Local clock offset: -0.183 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-03-28 02:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 462.47 Mbit/s
95th percentile per-packet one-way delay: 190.313 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 272.37 Mbit/s
95th percentile per-packet one-way delay: 153.216 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 230.92 Mbit/s
95th percentile per-packet one-way delay: 197.472 ms
Loss rate: 6.22%
-- Flow 3:
Average throughput: 112.09 Mbit/s
95th percentile per-packet one-way delay: 60.585 ms
Loss rate: 1.80%
Run 2: Report of PCC-Expr — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 274.61 Mbit/s)
Flow 1 egress (mean 272.37 Mbit/s)
Flow 2 ingress (mean 244.81 Mbit/s)
Flow 2 egress (mean 230.92 Mbit/s)
Flow 3 ingress (mean 112.80 Mbit/s)
Flow 3 egress (mean 112.09 Mbit/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 153.22 ms)
Flow 2 (95th percentile 197.47 ms)
Flow 3 (95th percentile 60.59 ms)
Run 3: Statistics of PCC-Expr

Local clock offset: -0.628 ms
Remote clock offset: -0.34 ms

# Below is generated by plot.py at 2019-03-28 02:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.60 Mbit/s
95th percentile per-packet one-way delay: 132.855 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 245.67 Mbit/s
95th percentile per-packet one-way delay: 133.126 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 195.40 Mbit/s
95th percentile per-packet one-way delay: 62.975 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 104.64 Mbit/s
95th percentile per-packet one-way delay: 201.211 ms
Loss rate: 9.90%
Run 3: Report of PCC-Expr — Data Link

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

Legend:
- Flow 1 ingress (mean 245.92 Mbit/s)
- Flow 1 egress (mean 245.67 Mbit/s)
- Flow 2 ingress (mean 195.64 Mbit/s)
- Flow 2 egress (mean 195.40 Mbit/s)
- Flow 3 ingress (mean 114.78 Mbit/s)
- Flow 3 egress (mean 104.64 Mbit/s)

- Flow 1 (95th percentile 133.13 ms)
- Flow 2 (95th percentile 62.98 ms)
- Flow 3 (95th percentile 201.21 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 23:24:10
End at: 2019-03-27 23:24:40
Local clock offset: -0.332 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 462.95 Mbit/s
95th percentile per-packet one-way delay: 190.839 ms
Loss rate: 10.17%
-- Flow 1:
Average throughput: 266.63 Mbit/s
95th percentile per-packet one-way delay: 195.024 ms
Loss rate: 15.75%
-- Flow 2:
Average throughput: 212.53 Mbit/s
95th percentile per-packet one-way delay: 119.671 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 168.72 Mbit/s
95th percentile per-packet one-way delay: 68.717 ms
Loss rate: 1.37%
Run 4: Report of PCC-Expr — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 315.23 Mbps)
- Flow 1 egress (mean 266.63 Mbps)
- Flow 2 ingress (mean 213.97 Mbps)
- Flow 2 egress (mean 212.53 Mbps)
- Flow 3 ingress (mean 166.90 Mbps)
- Flow 3 egress (mean 168.72 Mbps)

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

- Flow 1 (95th percentile 195.02 ms)
- Flow 2 (95th percentile 119.67 ms)
- Flow 3 (95th percentile 68.72 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-03-28 00:05:14
End at: 2019-03-28 00:05:44
Local clock offset: 0.238 ms
Remote clock offset: -0.317 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 457.63 Mbit/s
95th percentile per-packet one-way delay: 170.252 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 245.01 Mbit/s
95th percentile per-packet one-way delay: 93.151 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 232.06 Mbit/s
95th percentile per-packet one-way delay: 179.783 ms
Loss rate: 5.14%
-- Flow 3:
Average throughput: 178.88 Mbit/s
95th percentile per-packet one-way delay: 92.550 ms
Loss rate: 1.24%
Run 5: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 20:40:47
End at: 2019-03-27 20:41:17
Local clock offset: 0.311 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.82 Mbit/s
95th percentile per-packet one-way delay: 61.203 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 52.93 Mbit/s
95th percentile per-packet one-way delay: 61.408 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 57.524 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 54.23 Mbit/s
95th percentile per-packet one-way delay: 57.414 ms
Loss rate: 1.35%
Run 1: Report of QUIC Cubic — Data Link

![Graph showing throughput and per-packet one-way delay](image-url)
Run 2: Statistics of QUIC Cubic

Local clock offset: -0.485 ms
Remote clock offset: 0.605 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.02 Mbit/s
  95th percentile per-packet one-way delay: 56.445 ms
  Loss rate: 0.40%
-- Flow 1:
  Average throughput: 50.77 Mbit/s
  95th percentile per-packet one-way delay: 56.480 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 31.97 Mbit/s
  95th percentile per-packet one-way delay: 56.111 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 61.04 Mbit/s
  95th percentile per-packet one-way delay: 56.346 ms
  Loss rate: 0.06%
Run 2: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 50.92 Mbit/s)
Flow 2 ingress (mean 31.83 Mbit/s)
Flow 3 ingress (mean 61.07 Mbit/s)

Flow 1 egress (mean 50.77 Mbit/s)
Flow 2 egress (mean 31.97 Mbit/s)
Flow 3 egress (mean 61.04 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 56.48 ms)
Flow 2 (95th percentile 56.11 ms)
Flow 3 (95th percentile 56.35 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 22:03:29
End at: 2019-03-27 22:03:59
Local clock offset: 0.224 ms
Remote clock offset: -0.469 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.33 Mbit/s
95th percentile per-packet one-way delay: 61.345 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 58.34 Mbit/s
95th percentile per-packet one-way delay: 61.409 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 33.98 Mbit/s
95th percentile per-packet one-way delay: 58.042 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 25.75 Mbit/s
95th percentile per-packet one-way delay: 58.141 ms
Loss rate: 3.42%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 22:45:03
End at: 2019-03-27 22:45:33
Local clock offset: -0.042 ms
Remote clock offset: -0.341 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.40 Mbit/s
95th percentile per-packet one-way delay: 60.466 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 59.49 Mbit/s
95th percentile per-packet one-way delay: 57.748 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 60.565 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 19.80 Mbit/s
95th percentile per-packet one-way delay: 57.594 ms
Loss rate: 4.49%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 23:26:29
End at: 2019-03-27 23:26:59
Local clock offset: 0.153 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.43 Mbit/s
95th percentile per-packet one-way delay: 60.765 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: 57.908 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 57.868 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 16.09 Mbit/s
95th percentile per-packet one-way delay: 60.959 ms
Loss rate: 0.73%
Run 5: Report of QUIC Cubic — Data Link

![Graph showing network performance metrics over time, including throughput and per-packet round-trip delay. The graphs compare different flows with their respective mean throughput and 95th percentile round-trip delay.]
Run 1: Statistics of SCReAM

Start at: 2019-03-27 21:14:36
End at: 2019-03-27 21:15:06
Local clock offset: -0.073 ms
Remote clock offset: -0.314 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 57.867 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.892 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.435 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.613 ms
Loss rate: 1.08%
Run 1: Report of SCReAM — Data Link

![Graph of Throughput vs Time](image1)

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

[Flow definitions and data]
Run 2: Statistics of SCReAM

Start at: 2019-03-27 21:56:05
End at: 2019-03-27 21:56:35
Local clock offset: 0.016 ms
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 57.769 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.412 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.751 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.829 ms
  Loss rate: 1.09%
Run 3: Statistics of SCReAM

Start at: 2019-03-27 22:37:45
End at: 2019-03-27 22:38:15
Local clock offset: -0.209 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 57.218 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.238 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.131 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.180 ms
Loss rate: 1.08%
Run 3: Report of SCReAM — Data Link

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

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

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

- Flow 1 (95th percentile 57.24 ms)
- Flow 2 (95th percentile 57.13 ms)
- Flow 3 (95th percentile 57.18 ms)

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Run 4: Statistics of SCReAM

Start at: 2019-03-27 23:18:57
End at: 2019-03-27 23:19:27
Local clock offset: 0.167 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 61.149 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.060 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.207 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.795 ms
Loss rate: 1.08%
Run 4: Report of SCReAM — Data Link

![Graph 1: Throughput (Mbps)]

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

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

- Flow 1 (95th percentile 61.06 ms)
- Flow 2 (95th percentile 61.21 ms)
- Flow 3 (95th percentile 57.80 ms)
Run 5: Statistics of SCReAM

Start at: 2019-03-28 00:00:05
End at: 2019-03-28 00:00:35
Local clock offset: -0.53 ms
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 57.132 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.143 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.102 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.931 ms
Loss rate: 1.08%
Run 1: Statistics of Sprout

End at: 2019-03-27 21:11:43
Local clock offset: -0.343 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.52 Mbit/s
95th percentile per-packet one-way delay: 60.853 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 60.835 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 60.917 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 57.642 ms
Loss rate: 1.70%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-03-27 21:52:44
End at: 2019-03-27 21:53:14
Local clock offset: -0.164 ms
Remote clock offset: 0.145 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.27 Mbit/s
95th percentile per-packet one-way delay: 57.853 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 57.872 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 57.386 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 58.022 ms
Loss rate: 0.47%
Run 2: Report of Sprout — Data Link

Throughput (Mbps): 0 2 4 6 8

Time (s): 0 5 10 15 20 25 30

- Flow 1 ingress (mean 7.76 Mbps)
- Flow 1 egress (mean 7.76 Mbps)
- Flow 2 ingress (mean 7.74 Mbps)
- Flow 2 egress (mean 7.73 Mbps)
- Flow 3 ingress (mean 7.23 Mbps)
- Flow 3 egress (mean 7.29 Mbps)

Per packet one way delay (ms):

- Flow 1 (95th percentile 57.87 ms)
- Flow 2 (95th percentile 57.39 ms)
- Flow 3 (95th percentile 58.02 ms)
Run 3: Statistics of Sprout

Start at: 2019-03-27 22:34:35
End at: 2019-03-27 22:35:05
Local clock offset: -0.152 ms
Remote clock offset: -0.151 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.44 Mbit/s
95th percentile per-packet one-way delay: 60.748 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 58.032 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 57.965 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 61.218 ms
Loss rate: 1.45%
Run 3: Report of Sprout — Data Link

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**Throughput (Mbps)**

- Flow 1 ingress (mean 7.76 Mbps)
- Flow 1 egress (mean 7.76 Mbps)
- Flow 2 ingress (mean 6.84 Mbps)
- Flow 2 egress (mean 6.82 Mbps)
- Flow 3 ingress (mean 6.64 Mbps)
- Flow 3 egress (mean 6.63 Mbps)

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

- Flow 1 (95th percentile 58.03 ms)
- Flow 2 (95th percentile 57.97 ms)
- Flow 3 (95th percentile 61.22 ms)

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Run 4: Statistics of Sprout

Start at: 2019-03-27 23:15:12
End at: 2019-03-27 23:15:43
Local clock offset: 0.073 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 14.94 Mbit/s
  95th percentile per-packet one-way delay: 58.033 ms
  Loss rate: 0.63%
-- Flow 1:
  Average throughput: 7.87 Mbit/s
  95th percentile per-packet one-way delay: 58.023 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 7.55 Mbit/s
  95th percentile per-packet one-way delay: 57.817 ms
  Loss rate: 0.52%
-- Flow 3:
  Average throughput: 6.34 Mbit/s
  95th percentile per-packet one-way delay: 58.157 ms
  Loss rate: 1.65%
Run 4: Report of Sprout — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 7.86 Mbit/s)
- Blue solid line: Flow 1 egress (mean 7.87 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 7.55 Mbit/s)
- Green solid line: Flow 2 egress (mean 7.55 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 6.36 Mbit/s)
- Red solid line: Flow 3 egress (mean 6.34 Mbit/s)
Run 5: Statistics of Sprout

Start at: 2019-03-27 23:56:40
End at: 2019-03-27 23:57:10
Local clock offset: 0.073 ms
Remote clock offset: -0.283 ms

# Below is generated by plot.py at 2019-03-28 02:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.94 Mbit/s
95th percentile per-packet one-way delay: 58.136 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 58.015 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 58.054 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 58.320 ms
Loss rate: 1.56%
Run 5: Report of Sprout — Data Link

Graph 1: Throughput over time for different data flows.

Graph 2: Packet delay over time for different data flows.

Legend:
- Blue: Flow 1 (ingress 7.75 Mbit/s, egress 7.76 Mbit/s)
- Green: Flow 2 (ingress 7.59 Mbit/s, egress 7.59 Mbit/s)
- Orange: Flow 4 (95th percentile packet delay 58.02 ms)
- Green: Flow 5 (95th percentile packet delay 58.05 ms)
- Black: Flow 6 (95th percentile packet delay 58.32 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 20:48:16
End at: 2019-03-27 20:48:46
Local clock offset: -0.368 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-03-28 02:27:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.23 Mbit/s
95th percentile per-packet one-way delay: 65.651 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 221.83 Mbit/s
95th percentile per-packet one-way delay: 66.332 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 213.30 Mbit/s
95th percentile per-packet one-way delay: 66.444 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 211.16 Mbit/s
95th percentile per-packet one-way delay: 61.583 ms
Loss rate: 1.32%
Run 1: Report of TaoVA-100x — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 221.80 Mbps)
- Flow 1 egress (mean 221.83 Mbps)
- Flow 2 ingress (mean 213.41 Mbps)
- Flow 2 egress (mean 213.36 Mbps)
- Flow 3 ingress (mean 211.52 Mbps)
- Flow 3 egress (mean 211.16 Mbps)

**Per-packet one way delay (ms):**
- Flow 1 (95th percentile 66.33 ms)
- Flow 2 (95th percentile 66.44 ms)
- Flow 3 (95th percentile 61.58 ms)
Run 2: Statistics of TaoVA-100x

End at: 2019-03-27 21:30:05
Local clock offset: 0.234 ms
Remote clock offset: -0.299 ms

# Below is generated by plot.py at 2019-03-28 02:27:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 433.91 Mbit/s
  95th percentile per-packet one-way delay: 62.527 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 222.41 Mbit/s
  95th percentile per-packet one-way delay: 60.188 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 216.85 Mbit/s
  95th percentile per-packet one-way delay: 60.892 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 204.27 Mbit/s
  95th percentile per-packet one-way delay: 66.034 ms
  Loss rate: 1.33%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

End at: 2019-03-27 22:11:29
Local clock offset: -0.163 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2019-03-28 02:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.50 Mbit/s
95th percentile per-packet one-way delay: 60.076 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 223.61 Mbit/s
95th percentile per-packet one-way delay: 59.161 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 209.44 Mbit/s
95th percentile per-packet one-way delay: 60.178 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 217.63 Mbit/s
95th percentile per-packet one-way delay: 62.027 ms
Loss rate: 1.13%
Run 3: Report of TaoVA-100x — Data Link

![Graphs showing network throughput and packet size distribution over time for different flows.]
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 22:52:08
End at: 2019-03-27 22:52:38
Local clock offset: -0.532 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2019-03-28 02:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.51 Mbit/s
95th percentile per-packet one-way delay: 62.924 ms
Loss rate: 0.64%

-- Flow 1:
Average throughput: 208.41 Mbit/s
95th percentile per-packet one-way delay: 61.454 ms
Loss rate: 0.43%

-- Flow 2:
Average throughput: 205.29 Mbit/s
95th percentile per-packet one-way delay: 63.537 ms
Loss rate: 0.64%

-- Flow 3:
Average throughput: 199.09 Mbit/s
95th percentile per-packet one-way delay: 67.793 ms
Loss rate: 1.33%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

Start at: 2019-03-27 23:33:52
End at: 2019-03-27 23:34:22
Local clock offset: 0.129 ms
Remote clock offset: -0.212 ms

# Below is generated by plot.py at 2019-03-28 02:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.99 Mbit/s
95th percentile per-packet one-way delay: 67.167 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 209.76 Mbit/s
95th percentile per-packet one-way delay: 66.040 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 196.15 Mbit/s
95th percentile per-packet one-way delay: 68.894 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 187.59 Mbit/s
95th percentile per-packet one-way delay: 68.586 ms
Loss rate: 1.47%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 21:12:28
End at: 2019-03-27 21:12:58
Local clock offset: 0.299 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-03-28 02:28:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 632.06 Mbit/s
95th percentile per-packet one-way delay: 81.459 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 360.68 Mbit/s
95th percentile per-packet one-way delay: 71.398 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 256.88 Mbit/s
95th percentile per-packet one-way delay: 80.669 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 305.10 Mbit/s
95th percentile per-packet one-way delay: 133.431 ms
Loss rate: 0.47%
Run 1: Report of TCP Vegas — Data Link

![Graph of throughput and delay over time](image)

- **Throughput (Mbps):**
  - Flow 1 ingress: mean 360.27 Mbps
  - Flow 1 egress: mean 360.68 Mbps
  - Flow 2 ingress: mean 256.13 Mbps
  - Flow 2 egress: mean 256.88 Mbps
  - Flow 3 ingress: mean 302.77 Mbps
  - Flow 3 egress: mean 305.10 Mbps

- **Delay (ms):**
  - Flow 1 (95th percentile: 71.40 ms)
  - Flow 2 (95th percentile: 80.67 ms)
  - Flow 3 (95th percentile: 133.43 ms)
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 21:54:00
End at: 2019-03-27 21:54:30
Local clock offset: -0.579 ms
Remote clock offset: -0.187 ms

# Below is generated by plot.py at 2019-03-28 02:36:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 663.89 Mbit/s
  95th percentile per-packet one-way delay: 66.184 ms
  Loss rate: 0.39%
-- Flow 1:
  Average throughput: 422.45 Mbit/s
  95th percentile per-packet one-way delay: 63.009 ms
  Loss rate: 0.22%
-- Flow 2:
  Average throughput: 234.04 Mbit/s
  95th percentile per-packet one-way delay: 57.410 ms
  Loss rate: 0.55%
-- Flow 3:
  Average throughput: 260.28 Mbit/s
  95th percentile per-packet one-way delay: 90.066 ms
  Loss rate: 0.94%
Run 2: Report of TCP Vegas — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 421.78 Mbit/s)
Flow 1 egress (mean 422.45 Mbit/s)
Flow 2 ingress (mean 233.99 Mbit/s)
Flow 2 egress (mean 234.04 Mbit/s)
Flow 3 ingress (mean 258.72 Mbit/s)
Flow 3 egress (mean 260.28 Mbit/s)

Per packet end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 63.01 ms)
Flow 2 (95th percentile 57.41 ms)
Flow 3 (95th percentile 90.07 ms)
Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 22:35:50
End at: 2019-03-27 22:36:20
Local clock offset: -0.453 ms
Remote clock offset: -0.422 ms

# Below is generated by plot.py at 2019-03-28 02:36:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 526.87 Mbit/s
95th percentile per-packet one-way delay: 72.892 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 301.46 Mbit/s
95th percentile per-packet one-way delay: 75.275 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 129.79 Mbit/s
95th percentile per-packet one-way delay: 57.446 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 422.40 Mbit/s
95th percentile per-packet one-way delay: 76.586 ms
Loss rate: 1.37%
Run 3: Report of TCP Vegas — Data Link

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

Flow 1 ingress (mean 301.13 Mbit/s)  Flow 1 egress (mean 301.46 Mbit/s)
Flow 2 ingress (mean 129.87 Mbit/s)  Flow 2 egress (mean 129.79 Mbit/s)
Flow 3 ingress (mean 423.21 Mbit/s)  Flow 3 egress (mean 422.40 Mbit/s)
Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 23:16:27
End at: 2019-03-27 23:16:57
Local clock offset: 0.325 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2019-03-28 02:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 737.17 Mbit/s
95th percentile per-packet one-way delay: 100.662 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 367.44 Mbit/s
95th percentile per-packet one-way delay: 74.382 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 350.78 Mbit/s
95th percentile per-packet one-way delay: 141.540 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 413.95 Mbit/s
95th percentile per-packet one-way delay: 67.214 ms
Loss rate: 1.39%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

End at: 2019-03-27 23:58:25
Local clock offset: 0.112 ms
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2019-03-28 02:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 769.15 Mbit/s
95th percentile per-packet one-way delay: 72.760 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 419.98 Mbit/s
95th percentile per-packet one-way delay: 69.059 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 345.04 Mbit/s
95th percentile per-packet one-way delay: 79.391 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 363.26 Mbit/s
95th percentile per-packet one-way delay: 70.464 ms
Loss rate: 0.52%
Run 5: Report of TCP Vegas — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 419.25 Mb/s)
Flow 1 egress (mean 419.98 Mb/s)
Flow 2 ingress (mean 345.44 Mb/s)
Flow 2 egress (mean 345.04 Mb/s)
Flow 3 ingress (mean 358.80 Mb/s)
Flow 3 egress (mean 363.26 Mb/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 69.06 ms)
Flow 2 (95th percentile 79.39 ms)
Flow 3 (95th percentile 70.46 ms)
Run 1: Statistics of Verus

End at: 2019-03-27 21:16:18
Local clock offset: 0.263 ms
Remote clock offset: -0.677 ms

# Below is generated by plot.py at 2019-03-28 02:39:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 249.59 Mbit/s
  95th percentile per-packet one-way delay: 143.478 ms
  Loss rate: 0.82%
-- Flow 1:
  Average throughput: 150.56 Mbit/s
  95th percentile per-packet one-way delay: 152.661 ms
  Loss rate: 0.67%
-- Flow 2:
  Average throughput: 82.43 Mbit/s
  95th percentile per-packet one-way delay: 86.423 ms
  Loss rate: 1.07%
-- Flow 3:
  Average throughput: 134.45 Mbit/s
  95th percentile per-packet one-way delay: 149.243 ms
  Loss rate: 1.00%
Run 1: Report of Verus — Data Link
Run 2: Statistics of Verus

Start at: 2019-03-27 21:57:17
End at: 2019-03-27 21:57:47
Local clock offset: -0.186 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at 2019-03-28 02:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 257.46 Mbit/s
95th percentile per-packet one-way delay: 196.043 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 126.05 Mbit/s
95th percentile per-packet one-way delay: 233.099 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 143.71 Mbit/s
95th percentile per-packet one-way delay: 114.167 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 110.67 Mbit/s
95th percentile per-packet one-way delay: 76.995 ms
Loss rate: 0.84%
Run 2: Report of Verus — Data Link

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

- **Throughput:**
  - Flow 1 ingress (mean 128.46 Mbit/s)
  - Flow 2 ingress (mean 143.05 Mbit/s)
  - Flow 3 ingress (mean 110.64 Mbit/s)
  - Flow 1 egress (mean 126.05 Mbit/s)
  - Flow 2 egress (mean 143.71 Mbit/s)
  - Flow 3 egress (mean 110.67 Mbit/s)

- **Per-packet one-way delay:**
  - Flow 1 (95th percentile 233.10 ms)
  - Flow 2 (95th percentile 114.17 ms)
  - Flow 3 (95th percentile 77.00 ms)
Run 3: Statistics of Verus

Local clock offset: -0.482 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2019-03-28 02:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.79 Mbit/s
95th percentile per-packet one-way delay: 122.704 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 115.94 Mbit/s
95th percentile per-packet one-way delay: 156.062 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 108.99 Mbit/s
95th percentile per-packet one-way delay: 106.045 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 72.75 Mbit/s
95th percentile per-packet one-way delay: 80.308 ms
Loss rate: 2.96%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2019-03-27 23:20:09
End at: 2019-03-27 23:20:39
Local clock offset: -0.092 ms
Remote clock offset: -0.738 ms

# Below is generated by plot.py at 2019-03-28 02:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.91 Mbit/s
95th percentile per-packet one-way delay: 175.708 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 169.32 Mbit/s
95th percentile per-packet one-way delay: 183.670 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 101.074 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 73.73 Mbit/s
95th percentile per-packet one-way delay: 133.890 ms
Loss rate: 1.34%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

Start at: 2019-03-28 00:01:17
End at: 2019-03-28 00:01:47
Local clock offset: -0.139 ms
Remote clock offset: -0.296 ms

# Below is generated by plot.py at 2019-03-28 02:41:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.02 Mbit/s
95th percentile per-packet one-way delay: 147.185 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 129.24 Mbit/s
95th percentile per-packet one-way delay: 125.143 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 83.03 Mbit/s
95th percentile per-packet one-way delay: 84.510 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 138.52 Mbit/s
95th percentile per-packet one-way delay: 174.246 ms
Loss rate: 3.42%
Run 5: Report of Verus — Data Link

![Graph showing throughput and latency over time for different flows with mean values for ingress and egress.]
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 21:04:43
End at: 2019-03-27 21:05:13
Local clock offset: -0.252 ms
Remote clock offset: -0.154 ms

# Below is generated by plot.py at 2019-03-28 02:41:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.21 Mbit/s
95th percentile per-packet one-way delay: 151.681 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 319.85 Mbit/s
95th percentile per-packet one-way delay: 199.163 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 191.42 Mbit/s
95th percentile per-packet one-way delay: 61.591 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 174.94 Mbit/s
95th percentile per-packet one-way delay: 63.806 ms
Loss rate: 1.59%
Run 1: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 323.07 Mbps)**
- **Flow 1 egress (mean 319.85 Mbps)**
- **Flow 2 ingress (mean 191.24 Mbps)**
- **Flow 2 egress (mean 191.42 Mbps)**
- **Flow 3 ingress (mean 175.71 Mbps)**
- **Flow 3 egress (mean 174.04 Mbps)**

![Graph showing packet delay for different flows.]

- **Flow 1 (95th percentile 199.16 ms)**
- **Flow 2 (95th percentile 61.59 ms)**
- **Flow 3 (95th percentile 63.81 ms)**
Run 2: Statistics of PCC-Vivace

End at: 2019-03-27 21:47:14
Local clock offset: -0.556 ms
Remote clock offset: -0.795 ms

# Below is generated by plot.py at 2019-03-28 02:41:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 393.39 Mbit/s
  95th percentile per-packet one-way delay: 62.015 ms
  Loss rate: 0.77%
-- Flow 1:
  Average throughput: 224.11 Mbit/s
  95th percentile per-packet one-way delay: 62.416 ms
  Loss rate: 0.50%
-- Flow 2:
  Average throughput: 215.77 Mbit/s
  95th percentile per-packet one-way delay: 59.961 ms
  Loss rate: 0.70%
-- Flow 3:
  Average throughput: 79.53 Mbit/s
  95th percentile per-packet one-way delay: 59.765 ms
  Loss rate: 3.41%
Run 2: Report of PCC-Vivace — Data Link

![Graph of Throughout (Mbps) vs Time (s)]

- Flow 1 ingress (mean 224.34 Mbps)
- Flow 1 egress (mean 224.11 Mbps)
- Flow 2 ingress (mean 215.64 Mbps)
- Flow 2 egress (mean 215.77 Mbps)
- Flow 3 ingress (mean 81.37 Mbps)
- Flow 3 egress (mean 79.53 Mbps)

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

- Flow 1 (95th percentile 62.42 ms)
- Flow 2 (95th percentile 59.96 ms)
- Flow 3 (95th percentile 59.77 ms)
Run 3: Statistics of PCC-Vivace

Local clock offset: 0.205 ms
Remote clock offset: -0.163 ms

# Below is generated by plot.py at 2019-03-28 02:41:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.99 Mbit/s
95th percentile per-packet one-way delay: 62.803 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 262.10 Mbit/s
95th percentile per-packet one-way delay: 63.538 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 102.89 Mbit/s
95th percentile per-packet one-way delay: 58.871 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 166.97 Mbit/s
95th percentile per-packet one-way delay: 61.887 ms
Loss rate: 1.56%
Run 3: Report of PCC-Vivace — Data Link

Graph showing throughput and latency over time for different flows.
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 23:08:55
End at: 2019-03-27 23:09:25
Local clock offset: -0.336 ms
Remote clock offset: -0.183 ms

# Below is generated by plot.py at 2019-03-28 02:42:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.05 Mbit/s
95th percentile per-packet one-way delay: 58.993 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 203.80 Mbit/s
95th percentile per-packet one-way delay: 57.933 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 204.62 Mbit/s
95th percentile per-packet one-way delay: 59.568 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 181.66 Mbit/s
95th percentile per-packet one-way delay: 60.473 ms
Loss rate: 1.70%
Run 4: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 204.02 Mbit/s)**
- **Flow 1 egress (mean 203.80 Mbit/s)**
- **Flow 2 ingress (mean 204.99 Mbit/s)**
- **Flow 2 egress (mean 204.62 Mbit/s)**
- **Flow 3 ingress (mean 182.60 Mbit/s)**
- **Flow 3 egress (mean 181.66 Mbit/s)**

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

- **Flow 1 (95th percentile 57.93 ms)**
- **Flow 2 (95th percentile 59.57 ms)**
- **Flow 3 (95th percentile 60.47 ms)**
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 23:50:38
End at: 2019-03-27 23:51:08
Local clock offset: -0.17 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 475.13 Mbit/s
95th percentile per-packet one-way delay: 70.647 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 305.66 Mbit/s
95th percentile per-packet one-way delay: 91.009 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 211.29 Mbit/s
95th percentile per-packet one-way delay: 60.797 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 89.58 Mbit/s
95th percentile per-packet one-way delay: 61.403 ms
Loss rate: 1.48%
Run 5: Report of PCC-Vivace — Data Link

[Graph showing throughput over time for different flows]

[Graph showing per-packet one-way delay over time for different flows]
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 20:47:03
End at: 2019-03-27 20:47:33
Local clock offset: 0.339 ms
Remote clock offset: -0.553 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 58.284 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 58.037 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.387 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.100 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.07 Mbps)  Flow 2 ingress (mean 0.05 Mbps)  Flow 3 ingress (mean 0.05 Mbps)
Flow 1 egress (mean 0.07 Mbps)  Flow 2 egress (mean 0.05 Mbps)  Flow 3 egress (mean 0.05 Mbps)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 58.04 ms)  Flow 2 (95th percentile 58.39 ms)  Flow 3 (95th percentile 58.10 ms)
Run 2: Statistics of WebRTC media

End at: 2019-03-27 21:28:52
Local clock offset: -0.477 ms
Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 60.520 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.555 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.543 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.414 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

End at: 2019-03-27 22:10:17
Local clock offset: -0.18 ms
Remote clock offset: -0.205 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 57.576 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.535 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.332 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.664 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.05 Mbit/s)
Flow 1 egress (mean 0.05 Mbit/s)
Flow 2 ingress (mean 0.05 Mbit/s)
Flow 2 egress (mean 0.05 Mbit/s)
Flow 3 ingress (mean 0.05 Mbit/s)
Flow 3 egress (mean 0.05 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 57.53 ms)
Flow 2 (95th percentile 57.33 ms)
Flow 3 (95th percentile 57.66 ms)
Run 4: Statistics of WebRTC media

Start at: 2019-03-27 22:50:56
End at: 2019-03-27 22:51:26
Local clock offset: 0.272 ms
Remote clock offset: -0.548 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 61.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.642 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.247 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.836 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: Packet one-way delay (ms)]
Run 5: Statistics of WebRTC media

Start at: 2019-03-27 23:32:40
End at: 2019-03-27 23:33:10
Local clock offset: -0.174 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-03-28 02:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 60.727 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.201 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.305 ms
Loss rate: 0.00%