Pantheon Report

Data path: GCE Tokyo on ens4 (remote) → GCE Iowa 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 @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e694aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38d4dfe0ecdbbf90c077e6d4
third_party/libutp @ b3465b942e2826f2b179ea9ab4a906e6bb7cfc3cf
third_party/muses @ 5e7221187ad823da2095537730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af9c958fa0d66d18e623c91a55f8e872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8ac0d8fa92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143e9c978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3dbdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a6ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Tokyo to GCE Iowa, 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>
</tr>
</thead>
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<td>flow 2</td>
<td>flow 3</td>
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<td>442.36</td>
<td>384.26</td>
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<td>Copa</td>
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<td>255.36</td>
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<td>6.69</td>
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<td>224.61</td>
<td>134.88</td>
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<td>WebRTC media</td>
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</table>
Run 1: Statistics of TCP BBR

Start at: 2019-03-27 10:01:40
End at: 2019-03-27 10:02:10
Local clock offset: -0.17 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2019-03-27 13:34:27
# Datalink statistics

-- Total of 3 flows:
Average throughput: 891.63 Mbit/s
95th percentile per-packet one-way delay: 184.855 ms
Loss rate: 1.30%

-- Flow 1:
Average throughput: 465.60 Mbit/s
95th percentile per-packet one-way delay: 186.653 ms
Loss rate: 0.92%

-- Flow 2:
Average throughput: 431.52 Mbit/s
95th percentile per-packet one-way delay: 168.783 ms
Loss rate: 1.06%

-- Flow 3:
Average throughput: 422.65 Mbit/s
95th percentile per-packet one-way delay: 194.563 ms
Loss rate: 3.01%
Run 1: Report of TCP BBR — Data Link

![Throughput Graph](#)

![Delay Graph](#)

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Run 2: Statistics of TCP BBR

Start at: 2019-03-27 10:38:08
End at: 2019-03-27 10:38:38
Local clock offset: -0.103 ms
Remote clock offset: -0.24 ms

# Below is generated by plot.py at 2019-03-27 13:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 924.44 Mbit/s
95th percentile per-packet one-way delay: 175.292 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 473.67 Mbit/s
95th percentile per-packet one-way delay: 175.143 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 479.69 Mbit/s
95th percentile per-packet one-way delay: 144.425 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 400.77 Mbit/s
95th percentile per-packet one-way delay: 217.745 ms
Loss rate: 4.10%
Run 2: Report of TCP BBR — Data Link

![Graph showing throughputs and delays for different flows over time]

- Flow 1 ingress (mean 478.07 Mbit/s)
- Flow 1 egress (mean 473.67 Mbit/s)
- Flow 2 ingress (mean 492.59 Mbit/s)
- Flow 2 egress (mean 479.69 Mbit/s)
- Flow 3 ingress (mean 412.51 Mbit/s)
- Flow 3 egress (mean 400.77 Mbit/s)

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

- Flow 1 (95th percentile 175.14 ms)
- Flow 2 (95th percentile 144.43 ms)
- Flow 3 (95th percentile 217.75 ms)
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 11:14:28
End at: 2019-03-27 11:14:58
Local clock offset: -0.052 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2019-03-27 13:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.77 Mbit/s
95th percentile per-packet one-way delay: 191.543 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 447.28 Mbit/s
95th percentile per-packet one-way delay: 188.559 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 427.53 Mbit/s
95th percentile per-packet one-way delay: 194.536 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 383.18 Mbit/s
95th percentile per-packet one-way delay: 194.261 ms
Loss rate: 1.69%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2019-03-27 11:51:56
End at: 2019-03-27 11:52:26
Local clock offset: 0.003 ms
Remote clock offset: -0.276 ms

# Below is generated by plot.py at 2019-03-27 13:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 878.11 Mbit/s
95th percentile per-packet one-way delay: 173.654 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 461.53 Mbit/s
95th percentile per-packet one-way delay: 171.582 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 436.68 Mbit/s
95th percentile per-packet one-way delay: 169.734 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 383.21 Mbit/s
95th percentile per-packet one-way delay: 198.752 ms
Loss rate: 2.53%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2019-03-27 12:28:18
End at: 2019-03-27 12:28:48
Local clock offset: -0.141 ms
Remote clock offset: -0.305 ms

# Below is generated by plot.py at 2019-03-27 13:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 862.08 Mbit/s
  95th percentile per-packet one-way delay: 170.036 ms
  Loss rate: 1.25%
-- Flow 1:
  Average throughput: 462.81 Mbit/s
  95th percentile per-packet one-way delay: 200.892 ms
  Loss rate: 1.37%
-- Flow 2:
  Average throughput: 436.38 Mbit/s
  95th percentile per-packet one-way delay: 101.368 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 331.51 Mbit/s
  95th percentile per-packet one-way delay: 184.108 ms
  Loss rate: 2.40%
Run 5: Report of TCP BBR — Data Link

Graph showing throughput and packet delay over time for different flows.
Run 1: Statistics of Copa

Start at: 2019-03-27 10:03:47
End at: 2019-03-27 10:04:17
Local clock offset: -0.148 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2019-03-27 13:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 476.99 Mbit/s
95th percentile per-packet one-way delay: 81.145 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 242.71 Mbit/s
95th percentile per-packet one-way delay: 73.198 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 233.74 Mbit/s
95th percentile per-packet one-way delay: 91.685 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 239.48 Mbit/s
95th percentile per-packet one-way delay: 84.593 ms
Loss rate: 1.40%
Run 1: Report of Copa — Data Link

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

- **Throughput** (Mbps):
  - **Flow 1 ingress** (mean 242.36 Mbps)
  - **Flow 2 ingress** (mean 233.86 Mbps)
  - **Flow 3 ingress** (mean 239.81 Mbps)
  - **Flow 1 egress** (mean 242.71 Mbps)
  - **Flow 2 egress** (mean 233.74 Mbps)
  - **Flow 3 egress** (mean 239.48 Mbps)

- **Delay (ms)**:
  - **Flow 1** (95th percentile 73.20 ms)
  - **Flow 2** (95th percentile 91.69 ms)
  - **Flow 3** (95th percentile 84.59 ms)
Run 2: Statistics of Copa

Start at: 2019-03-27 10:40:14
End at: 2019-03-27 10:40:44
Local clock offset: -0.074 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2019-03-27 13:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.72 Mbit/s
95th percentile per-packet one-way delay: 96.328 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 277.48 Mbit/s
95th percentile per-packet one-way delay: 98.603 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 250.86 Mbit/s
95th percentile per-packet one-way delay: 94.836 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 247.49 Mbit/s
95th percentile per-packet one-way delay: 84.544 ms
Loss rate: 1.52%
Run 2: Report of Copa — Data Link

Graph 1: Throughput in Mbps vs Time (s)

- Flow 1 ingress (mean 277.59 Mbps)
- Flow 1 egress (mean 277.48 Mbps)
- Flow 2 ingress (mean 251.05 Mbps)
- Flow 2 egress (mean 250.86 Mbps)
- Flow 3 ingress (mean 248.12 Mbps)
- Flow 3 egress (mean 247.49 Mbps)

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

- Flow 1 (95th percentile 98.60 ms)
- Flow 2 (95th percentile 94.84 ms)
- Flow 3 (95th percentile 84.54 ms)
Run 3: Statistics of Copa

Start at: 2019-03-27 11:16:35
End at: 2019-03-27 11:17:05
Local clock offset: -0.068 ms
Remote clock offset: 0.245 ms

# Below is generated by plot.py at 2019-03-27 13:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.52 Mbit/s
95th percentile per-packet one-way delay: 92.760 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 247.95 Mbit/s
95th percentile per-packet one-way delay: 90.481 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 233.95 Mbit/s
95th percentile per-packet one-way delay: 91.082 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 216.03 Mbit/s
95th percentile per-packet one-way delay: 103.538 ms
Loss rate: 0.68%
Run 3: Report of Copa — Data Link

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

- **Flow 1 ingress (mean 247.78 Mbps)**
- **Flow 1 egress (mean 247.95 Mbps)**
- **Flow 2 ingress (mean 233.12 Mbps)**
- **Flow 2 egress (mean 233.95 Mbps)**
- **Flow 3 ingress (mean 214.72 Mbps)**
- **Flow 3 egress (mean 216.03 Mbps)**

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

- **Flow 1 (95th percentile 90.48 ms)**
- **Flow 2 (95th percentile 91.08 ms)**
- **Flow 3 (95th percentile 103.54 ms)**
Run 4: Statistics of Copa

Start at: 2019-03-27 11:54:04
End at: 2019-03-27 11:54:34
Local clock offset: 0.01 ms
Remote clock offset: -0.19 ms

# Below is generated by plot.py at 2019-03-27 13:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 486.85 Mbit/s
95th percentile per-packet one-way delay: 84.388 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 247.44 Mbit/s
95th percentile per-packet one-way delay: 84.750 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 225.91 Mbit/s
95th percentile per-packet one-way delay: 72.058 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 270.72 Mbit/s
95th percentile per-packet one-way delay: 89.432 ms
Loss rate: 1.44%
Run 4: Report of Copa — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 247.49 Mbps)
- Flow 1 egress (mean 247.44 Mbps)
- Flow 2 ingress (mean 225.09 Mbps)
- Flow 2 egress (mean 225.91 Mbps)
- Flow 3 ingress (mean 271.17 Mbps)
- Flow 3 egress (mean 270.72 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 84.75 ms)
- Flow 2 (95th percentile 72.06 ms)
- Flow 3 (95th percentile 89.43 ms)
Run 5: Statistics of Copa

Start at: 2019-03-27 12:30:26
End at: 2019-03-27 12:30:56
Local clock offset: -0.113 ms
Remote clock offset: -0.402 ms

# Below is generated by plot.py at 2019-03-27 13:49:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 485.55 Mbit/s
95th percentile per-packet one-way delay: 93.806 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 261.23 Mbit/s
95th percentile per-packet one-way delay: 95.360 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 221.07 Mbit/s
95th percentile per-packet one-way delay: 86.741 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 235.02 Mbit/s
95th percentile per-packet one-way delay: 125.967 ms
Loss rate: 1.54%
Run 5: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

End at: 2019-03-27 10:23:11  
Local clock offset: -0.15 ms  
Remote clock offset: -0.153 ms  

# Below is generated by plot.py at 2019-03-27 13:49:06  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 875.21 Mbit/s  
  95th percentile per-packet one-way delay: 133.099 ms  
  Loss rate: 0.65%  
-- Flow 1:  
  Average throughput: 451.99 Mbit/s  
  95th percentile per-packet one-way delay: 131.576 ms  
  Loss rate: 0.39%  
-- Flow 2:  
  Average throughput: 427.11 Mbit/s  
  95th percentile per-packet one-way delay: 117.670 ms  
  Loss rate: 0.71%  
-- Flow 3:  
  Average throughput: 422.39 Mbit/s  
  95th percentile per-packet one-way delay: 200.762 ms  
  Loss rate: 1.37%
Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 10:59:08  
End at: 2019-03-27 10:59:38  
Local clock offset: -0.097 ms  
Remote clock offset: 0.171 ms

# Below is generated by plot.py at 2019-03-27 13:50:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 919.25 Mbit/s
95th percentile per-packet one-way delay: 130.341 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 506.77 Mbit/s
95th percentile per-packet one-way delay: 151.975 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 409.94 Mbit/s
95th percentile per-packet one-way delay: 129.797 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 424.49 Mbit/s
95th percentile per-packet one-way delay: 77.824 ms
Loss rate: 1.43%
Run 2: Report of TCP Cubic — Data Link

Below are two graphs showing the throughput and round trip time for different flows over time. The top graph displays the throughput (Mbps) over time for three different flows, with each flow marked by a different line color and style. The bottom graph shows the round trip time (ms) for the same flows. The graphs include markers indicating the 95th percentile values for each flow.
Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 11:35:46
End at: 2019-03-27 11:36:16
Local clock offset: -0.046 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-03-27 13:50:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 912.16 Mbit/s
95th percentile per-packet one-way delay: 98.819 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 465.89 Mbit/s
95th percentile per-packet one-way delay: 97.795 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 482.85 Mbit/s
95th percentile per-packet one-way delay: 97.576 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 380.24 Mbit/s
95th percentile per-packet one-way delay: 123.975 ms
Loss rate: 1.53%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 12:13:05
Local clock offset: -0.11 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2019-03-27 13:50:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.85 Mbit/s
95th percentile per-packet one-way delay: 96.304 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 468.57 Mbit/s
95th percentile per-packet one-way delay: 92.321 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 475.84 Mbit/s
95th percentile per-packet one-way delay: 96.736 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 382.30 Mbit/s
95th percentile per-packet one-way delay: 106.800 ms
Loss rate: 1.56%
Run 4: Report of TCP Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 468.39 Mbit/s)  Flow 1 egress (mean 468.57 Mbit/s)
Flow 2 ingress (mean 475.48 Mbit/s)  Flow 2 egress (mean 475.84 Mbit/s)
Flow 3 ingress (mean 383.42 Mbit/s)  Flow 3 egress (mean 382.39 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 92.32 ms)  Flow 2 (95th percentile 96.74 ms)  Flow 3 (95th percentile 106.80 ms)
Run 5: Statistics of TCP Cubic

End at: 2019-03-27 12:49:58
Local clock offset: -0.173 ms
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2019-03-27 13:50:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.54 Mbit/s
95th percentile per-packet one-way delay: 103.457 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 461.05 Mbit/s
95th percentile per-packet one-way delay: 111.740 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 369.65 Mbit/s
95th percentile per-packet one-way delay: 65.889 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 408.93 Mbit/s
95th percentile per-packet one-way delay: 81.140 ms
Loss rate: 1.53%
Run 5: Report of TCP Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 461.77 Mbit/s)  Flow 1 egress (mean 461.05 Mbit/s)
Flow 2 ingress (mean 369.71 Mbit/s)  Flow 2 egress (mean 369.65 Mbit/s)
Flow 3 ingress (mean 409.98 Mbit/s)  Flow 3 egress (mean 408.93 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 111.74 ms)  Flow 2 (95th percentile 65.89 ms)  Flow 3 (95th percentile 81.14 ms)
Run 1: Statistics of FillP

Start at: 2019-03-27 10:20:51
End at: 2019-03-27 10:21:21
Local clock offset: -0.073 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2019-03-27 13:54:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.28 Mbit/s
95th percentile per-packet one-way delay: 114.685 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 549.37 Mbit/s
95th percentile per-packet one-way delay: 119.319 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 347.27 Mbit/s
95th percentile per-packet one-way delay: 68.461 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 257.18 Mbit/s
95th percentile per-packet one-way delay: 66.431 ms
Loss rate: 1.46%
Run 1: Report of FillP — Data Link

![Graph 1: Throughput vs. Time]

- Flow 1 Ingress (mean 556.19 Mbit/s)
- Flow 1 Egress (mean 549.37 Mbit/s)
- Flow 2 Ingress (mean 346.41 Mbit/s)
- Flow 2 Egress (mean 347.27 Mbit/s)
- Flow 3 Ingress (mean 257.21 Mbit/s)
- Flow 3 Egress (mean 257.18 Mbit/s)

![Graph 2: Packet Delay vs. Time]

- Flow 1 95th percentile: 119.32 ms
- Flow 2 95th percentile: 68.46 ms
- Flow 3 95th percentile: 66.43 ms
Run 2: Statistics of FillP

Start at: 2019-03-27 10:57:18
End at: 2019-03-27 10:57:48
Local clock offset: -0.117 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 892.51 Mbit/s
  95th percentile per-packet one-way delay: 109.039 ms
  Loss rate: 1.03%
-- Flow 1:
  Average throughput: 554.45 Mbit/s
  95th percentile per-packet one-way delay: 115.806 ms
  Loss rate: 1.14%
-- Flow 2:
  Average throughput: 375.93 Mbit/s
  95th percentile per-packet one-way delay: 65.923 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 268.66 Mbit/s
  95th percentile per-packet one-way delay: 68.076 ms
  Loss rate: 1.61%
Run 2: Report of FillP — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.]
Run 3: Statistics of FillP

Start at: 2019-03-27 11:33:56
End at: 2019-03-27 11:34:26
Local clock offset: 0.003 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 806.13 Mbit/s
95th percentile per-packet one-way delay: 92.408 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 502.52 Mbit/s
95th percentile per-packet one-way delay: 102.073 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 333.54 Mbit/s
95th percentile per-packet one-way delay: 68.317 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 251.07 Mbit/s
95th percentile per-packet one-way delay: 64.659 ms
Loss rate: 1.36%
Run 3: Report of FillP — Data Link

![Graph of throughput vs time for different flows with legend showing mean values.]

![Graph of per-packet one-way delay vs time for different flows with legend showing 95th percentile delay values.]

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Run 4: Statistics of FillP

Start at: 2019-03-27 12:11:16
End at: 2019-03-27 12:11:46
Local clock offset: -0.07 ms
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 826.78 Mbit/s
95th percentile per-packet one-way delay: 97.531 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 521.55 Mbit/s
95th percentile per-packet one-way delay: 105.486 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 337.31 Mbit/s
95th percentile per-packet one-way delay: 68.757 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 247.38 Mbit/s
95th percentile per-packet one-way delay: 75.487 ms
Loss rate: 1.78%
Run 4: Report of FillP — Data Link

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

Flow 1 (ingress mean 522.64 Mb/s, egress mean 521.55 Mb/s)
Flow 2 (ingress mean 337.21 Mb/s, egress mean 337.31 Mb/s)
Flow 3 (ingress mean 248.64 Mb/s, egress mean 247.38 Mb/s)

Flow 1 (95th percentile 105.49 ms)
Flow 2 (95th percentile 68.76 ms)
Flow 3 (95th percentile 75.49 ms)
Run 5: Statistics of FillP

Start at: 2019-03-27 12:47:37
End at: 2019-03-27 12:48:07
Local clock offset: -0.114 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 837.12 Mbit/s
95th percentile per-packet one-way delay: 93.410 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 524.29 Mbit/s
95th percentile per-packet one-way delay: 93.721 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 333.63 Mbit/s
95th percentile per-packet one-way delay: 69.221 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 278.69 Mbit/s
95th percentile per-packet one-way delay: 112.843 ms
Loss rate: 0.82%
Run 5: Report of FillP — Data Link

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**Throughput vs. Time (Mbps)**
- Flow 1 Ingress (mean 524.87 Mbps)
- Flow 1 Egress (mean 524.29 Mbps)
- Flow 2 Ingress (mean 332.87 Mbps)
- Flow 2 Egress (mean 333.63 Mbps)
- Flow 3 Ingress (mean 277.21 Mbps)
- Flow 3 Egress (mean 278.69 Mbps)

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**Delay vs. Time (ms)**
- Flow 1 (95th percentile 93.72 ms)
- Flow 2 (95th percentile 69.22 ms)
- Flow 3 (95th percentile 112.84 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 10:28:37
End at: 2019-03-27 10:29:07
Local clock offset: -0.076 ms
Remote clock offset: -0.519 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 808.30 Mbit/s
  95th percentile per-packet one-way delay: 103.966 ms
  Loss rate: 0.88%
-- Flow 1:
  Average throughput: 513.68 Mbit/s
  95th percentile per-packet one-way delay: 109.128 ms
  Loss rate: 0.85%
-- Flow 2:
  Average throughput: 329.18 Mbit/s
  95th percentile per-packet one-way delay: 65.861 ms
  Loss rate: 0.68%
-- Flow 3:
  Average throughput: 231.90 Mbit/s
  95th percentile per-packet one-way delay: 66.242 ms
  Loss rate: 1.63%
Run 1: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 515.86 Mbit/s) and egress (mean 513.88 Mbit/s)
- Flow 2 ingress (mean 329.52 Mbit/s) and egress (mean 329.18 Mbit/s)
- Flow 3 ingress (mean 232.23 Mbit/s) and egress (mean 231.90 Mbit/s)

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

- Flow 1 (95th percentile 109.13 ms)
- Flow 2 (95th percentile 65.86 ms)
- Flow 3 (95th percentile 66.24 ms)

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Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 11:05:05
End at: 2019-03-27 11:05:35
Local clock offset: -0.097 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 816.17 Mbit/s
95th percentile per-packet one-way delay: 102.038 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 512.14 Mbit/s
95th percentile per-packet one-way delay: 108.057 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 333.50 Mbit/s
95th percentile per-packet one-way delay: 67.460 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 250.97 Mbit/s
95th percentile per-packet one-way delay: 66.271 ms
Loss rate: 1.48%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 11:42:04
End at: 2019-03-27 11:42:34
Local clock offset: -0.011 ms
Remote clock offset: -0.643 ms

# Below is generated by plot.py at 2019-03-27 14:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.58 Mbit/s
95th percentile per-packet one-way delay: 112.087 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 476.94 Mbit/s
95th percentile per-packet one-way delay: 123.565 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 338.96 Mbit/s
95th percentile per-packet one-way delay: 67.562 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 230.48 Mbit/s
95th percentile per-packet one-way delay: 66.845 ms
Loss rate: 1.19%
Run 3: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 480.78 Mbit/s)
Flow 1 egress (mean 476.94 Mbit/s)
Flow 2 ingress (mean 338.61 Mbit/s)
Flow 2 egress (mean 338.96 Mbit/s)
Flow 3 ingress (mean 230.73 Mbit/s)
Flow 3 egress (mean 230.48 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 123.56 ms)
Flow 2 (95th percentile 67.56 ms)
Flow 3 (95th percentile 66.84 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 12:18:56
End at: 2019-03-27 12:19:26
Local clock offset: -0.103 ms
Remote clock offset: -0.295 ms

# Below is generated by plot.py at 2019-03-27 14:12:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 819.48 Mbit/s
  95th percentile per-packet one-way delay: 114.091 ms
  Loss rate: 1.13%
-- Flow 1:
  Average throughput: 517.49 Mbit/s
  95th percentile per-packet one-way delay: 125.356 ms
  Loss rate: 1.38%
-- Flow 2:
  Average throughput: 330.27 Mbit/s
  95th percentile per-packet one-way delay: 65.781 ms
  Loss rate: 0.48%
-- Flow 3:
  Average throughput: 252.89 Mbit/s
  95th percentile per-packet one-way delay: 67.228 ms
  Loss rate: 1.25%
Run 4: Report of FillP-Sheep — Data Link

![Graph showing throughput and per-packet one-way delay for Flow 1, Flow 2, and Flow 3 with specific mean and percentile values for ingress and egress.]

Legend:
- Flow 1 ingress (mean 522.25 Mbit/s)
- Flow 1 egress (mean 517.49 Mbit/s)
- Flow 2 ingress (mean 329.64 Mbit/s)
- Flow 2 egress (mean 330.23 Mbit/s)
- Flow 3 ingress (mean 253.15 Mbit/s)
- Flow 3 egress (mean 252.89 Mbit/s)
Run 5: Statistics of FillP-Sheep

Local clock offset: -0.11 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 773.95 Mbit/s
95th percentile per-packet one-way delay: 93.854 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 490.32 Mbit/s
95th percentile per-packet one-way delay: 98.584 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 301.40 Mbit/s
95th percentile per-packet one-way delay: 68.006 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 254.56 Mbit/s
95th percentile per-packet one-way delay: 65.982 ms
Loss rate: 1.39%
Run 5: Report of FillP-Sheep — Data Link

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

- **Flow 1 Ingress (mean 491.20 Mbps)**
- **Flow 1 Egress (mean 490.32 Mbps)**
- **Flow 2 Ingress (mean 301.27 Mbps)**
- **Flow 2 Egress (mean 301.40 Mbps)**
- **Flow 3 Ingress (mean 254.44 Mbps)**
- **Flow 3 Egress (mean 254.56 Mbps)**

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

- **Flow 1 (95th percentile 98.58 ms)**
- **Flow 2 (95th percentile 68.01 ms)**
- **Flow 3 (95th percentile 65.68 ms)**
Run 1: Statistics of Indigo

Start at: 2019-03-27 10:19:03
End at: 2019-03-27 10:19:33
Local clock offset: -0.09 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.05 Mbit/s
95th percentile per-packet one-way delay: 65.632 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 210.00 Mbit/s
95th percentile per-packet one-way delay: 65.026 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 187.49 Mbit/s
95th percentile per-packet one-way delay: 66.612 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 156.49 Mbit/s
95th percentile per-packet one-way delay: 64.999 ms
Loss rate: 1.47%
Run 1: Report of Indigo — Data Link

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

**Throughput**
- Flow 1 ingress (mean 209.88 Mbit/s)
- Flow 1 egress (mean 210.00 Mbit/s)
- Flow 2 ingress (mean 187.39 Mbit/s)
- Flow 2 egress (mean 187.49 Mbit/s)
- Flow 3 ingress (mean 156.80 Mbit/s)
- Flow 3 egress (mean 156.49 Mbit/s)

**Packet Loss**
- Flow 1 (95th percentile 65.03 ms)
- Flow 2 (95th percentile 66.61 ms)
- Flow 3 (95th percentile 65.00 ms)
Run 2: Statistics of Indigo

Start at: 2019-03-27 10:55:30
End at: 2019-03-27 10:56:00
Local clock offset: -0.116 ms
Remote clock offset: -0.84 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.68 Mbit/s
95th percentile per-packet one-way delay: 66.614 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 191.73 Mbit/s
95th percentile per-packet one-way delay: 66.672 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 176.96 Mbit/s
95th percentile per-packet one-way delay: 66.971 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 161.17 Mbit/s
95th percentile per-packet one-way delay: 65.722 ms
Loss rate: 1.48%
Run 2: Report of Indigo — Data Link

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**Throughput (Mbps) vs Time (s)**
- Flow 1 ingress (mean 191.71 Mbps)
- Flow 1 egress (mean 191.73 Mbps)
- Flow 2 ingress (mean 177.06 Mbps)
- Flow 2 egress (mean 176.96 Mbps)
- Flow 3 ingress (mean 161.45 Mbps)
- Flow 3 egress (mean 161.17 Mbps)

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**Per-packet one-way delay (ms) vs Time (s)**
- Flow 1 (95th percentile 66.67 ms)
- Flow 2 (95th percentile 66.97 ms)
- Flow 3 (95th percentile 65.72 ms)
Run 3: Statistics of Indigo

Start at: 2019-03-27 11:32:02
End at: 2019-03-27 11:32:32
Local clock offset: -0.032 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.78 Mbit/s
95th percentile per-packet one-way delay: 66.488 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 204.90 Mbit/s
95th percentile per-packet one-way delay: 67.292 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 180.80 Mbit/s
95th percentile per-packet one-way delay: 65.859 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 177.23 Mbit/s
95th percentile per-packet one-way delay: 65.732 ms
Loss rate: 1.45%
Run 3: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 204.93 Mbit/s)
- Flow 1 egress (mean 204.90 Mbit/s)
- Flow 2 ingress (mean 180.98 Mbit/s)
- Flow 2 egress (mean 180.80 Mbit/s)
- Flow 3 ingress (mean 177.45 Mbit/s)
- Flow 3 egress (mean 177.23 Mbit/s)
Run 4: Statistics of Indigo

Start at: 2019-03-27 12:09:28
End at: 2019-03-27 12:09:58
Local clock offset: -0.094 ms
Remote clock offset: -0.274 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.64 Mbit/s
95th percentile per-packet one-way delay: 65.663 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 188.28 Mbit/s
95th percentile per-packet one-way delay: 65.383 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 193.10 Mbit/s
95th percentile per-packet one-way delay: 66.166 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 132.23 Mbit/s
95th percentile per-packet one-way delay: 64.712 ms
Loss rate: 1.49%
Run 4: Report of Indigo — Data Link

![Graph showing throughput and delay over time for different flows.](chart)
Run 5: Statistics of Indigo

Start at: 2019-03-27 12:45:42
End at: 2019-03-27 12:46:12
Local clock offset: -0.133 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 374.26 Mbit/s
  95th percentile per-packet one-way delay: 67.714 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 205.48 Mbit/s
  95th percentile per-packet one-way delay: 67.951 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 178.59 Mbit/s
  95th percentile per-packet one-way delay: 67.500 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 159.18 Mbit/s
  95th percentile per-packet one-way delay: 66.807 ms
  Loss rate: 1.49%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 10:13:40
End at: 2019-03-27 10:14:10
Local clock offset: -0.13 ms
Remote clock offset: 0.086 ms

# Below is generated by plot.py at 2019-03-27 14:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.58 Mbit/s
95th percentile per-packet one-way delay: 69.952 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 405.59 Mbit/s
95th percentile per-packet one-way delay: 71.750 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 342.92 Mbit/s
95th percentile per-packet one-way delay: 68.414 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 265.12 Mbit/s
95th percentile per-packet one-way delay: 67.352 ms
Loss rate: 1.59%
Run 1: Report of Indigo-MusesC3 — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 405.26 Mbps)
- Flow 1 egress (mean 405.59 Mbps)
- Flow 2 ingress (mean 342.73 Mbps)
- Flow 2 egress (mean 342.92 Mbps)
- Flow 3 ingress (mean 264.47 Mbps)
- Flow 3 egress (mean 265.12 Mbps)

**Packet Loss (ms):**
- Flow 1 (95th percentile 71.75 ms)
- Flow 2 (95th percentile 68.41 ms)
- Flow 3 (95th percentile 67.35 ms)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 10:50:04
End at: 2019-03-27 10:50:34
Local clock offset: -0.099 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-03-27 14:26:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 709.90 Mbit/s
  95th percentile per-packet one-way delay: 84.372 ms
  Loss rate: 0.61%
  -- Flow 1:
    Average throughput: 412.79 Mbit/s
    95th percentile per-packet one-way delay: 93.294 ms
    Loss rate: 0.37%
  -- Flow 2:
    Average throughput: 370.81 Mbit/s
    95th percentile per-packet one-way delay: 68.246 ms
    Loss rate: 0.46%
  -- Flow 3:
    Average throughput: 223.43 Mbit/s
    95th percentile per-packet one-way delay: 68.115 ms
    Loss rate: 2.81%
Run 2: Report of Indigo-MusesC3 — Data Link
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 11:26:19
End at: 2019-03-27 11:26:49
Local clock offset: -0.035 ms
Remote clock offset: -0.216 ms

# Below is generated by plot.py at 2019-03-27 14:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 697.91 Mbit/s
95th percentile per-packet one-way delay: 85.023 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 413.50 Mbit/s
95th percentile per-packet one-way delay: 84.805 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 356.65 Mbit/s
95th percentile per-packet one-way delay: 88.476 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 212.82 Mbit/s
95th percentile per-packet one-way delay: 66.506 ms
Loss rate: 2.82%
Run 3: Report of Indigo-MusesC3 — Data Link

Graph 1: Throughput over Time

Graph 2: Per-packet one-way delay over Time

Legend:
- Flow 1 ingress (mean 412.73 Mbit/s)
- Flow 1 egress (mean 413.50 Mbit/s)
- Flow 2 ingress (mean 356.10 Mbit/s)
- Flow 2 egress (mean 356.65 Mbit/s)
- Flow 3 ingress (mean 215.27 Mbit/s)
- Flow 3 egress (mean 212.62 Mbit/s)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:03:46
End at: 2019-03-27 12:04:16
Local clock offset: -0.048 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-03-27 14:30:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 674.23 Mbit/s
  95th percentile per-packet one-way delay: 94.510 ms
  Loss rate: 0.56%
-- Flow 1:
  Average throughput: 397.15 Mbit/s
  95th percentile per-packet one-way delay: 102.788 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 337.80 Mbit/s
  95th percentile per-packet one-way delay: 75.197 ms
  Loss rate: 0.49%
-- Flow 3:
  Average throughput: 223.02 Mbit/s
  95th percentile per-packet one-way delay: 66.354 ms
  Loss rate: 1.95%
Run 4: Report of Indigo-MusesC3 — Data Link
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:40:14
End at: 2019-03-27 12:40:44
Local clock offset: -0.118 ms
Remote clock offset: -0.941 ms

# Below is generated by plot.py at 2019-03-27 14:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 673.27 Mbit/s
95th percentile per-packet one-way delay: 88.702 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 388.45 Mbit/s
95th percentile per-packet one-way delay: 93.879 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 339.49 Mbit/s
95th percentile per-packet one-way delay: 86.332 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 245.24 Mbit/s
95th percentile per-packet one-way delay: 74.657 ms
Loss rate: 1.67%
Run 5: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and packet round-trip delay over time]

- **Flow 1 ingress** (mean 388.17 Mbit/s)
- **Flow 1 egress** (mean 388.45 Mbit/s)
- **Flow 2 ingress** (mean 339.70 Mbit/s)
- **Flow 2 egress** (mean 339.49 Mbit/s)
- **Flow 3 ingress** (mean 245.37 Mbit/s)
- **Flow 3 egress** (mean 245.24 Mbit/s)
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 10:31:40
End at: 2019-03-27 10:32:10
Local clock offset: -0.076 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2019-03-27 14:31:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 700.34 Mbit/s
95th percentile per-packet one-way delay: 110.304 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 399.72 Mbit/s
95th percentile per-packet one-way delay: 119.186 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 347.42 Mbit/s
95th percentile per-packet one-way delay: 113.057 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 285.40 Mbit/s
95th percentile per-packet one-way delay: 75.399 ms
Loss rate: 1.76%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 11:08:09
End at: 2019-03-27 11:08:39
Local clock offset: -0.093 ms
Remote clock offset: 0.23 ms

# Below is generated by plot.py at 2019-03-27 14:31:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 689.52 Mbit/s
95th percentile per-packet one-way delay: 92.425 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 407.25 Mbit/s
95th percentile per-packet one-way delay: 98.764 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 397.88 Mbit/s
95th percentile per-packet one-way delay: 89.378 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 96.44 Mbit/s
95th percentile per-packet one-way delay: 63.561 ms
Loss rate: 1.82%
Run 2: Report of Indigo-MusesC5 — Data Link

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

- **Throughput Graph**
  - Flow 1 ingress (mean 496.81 Mbit/s)
  - Flow 1 egress (mean 407.25 Mbit/s)
  - Flow 2 ingress (mean 397.53 Mbit/s)
  - Flow 2 egress (mean 397.88 Mbit/s)
  - Flow 3 ingress (mean 96.66 Mbit/s)
  - Flow 3 egress (mean 96.44 Mbit/s)

- **Packet Delay Graph**
  - Flow 1 (95th percentile 98.76 ms)
  - Flow 2 (95th percentile 89.38 ms)
  - Flow 3 (95th percentile 63.56 ms)
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 11:45:10
End at: 2019-03-27 11:45:40
Local clock offset: 0.003 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-03-27 14:32:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 729.76 Mbit/s
95th percentile per-packet one-way delay: 125.568 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 434.82 Mbit/s
95th percentile per-packet one-way delay: 121.742 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 383.40 Mbit/s
95th percentile per-packet one-way delay: 129.984 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 186.11 Mbit/s
95th percentile per-packet one-way delay: 68.884 ms
Loss rate: 3.04%
Run 3: Report of Indigo-MusesC5 — Data Link

Throughput (Mbit/s)

Flow 1 ingress (mean 434.56 Mbit/s)  Flow 1 egress (mean 434.82 Mbit/s)
Flow 2 ingress (mean 382.86 Mbit/s)  Flow 2 egress (mean 383.40 Mbit/s)
Flow 3 ingress (mean 186.68 Mbit/s)  Flow 3 egress (mean 186.11 Mbit/s)

Packet arrival rate (ms)

Flow 1 (95th percentile 121.74 ms)  Flow 2 (95th percentile 129.98 ms)  Flow 3 (95th percentile 68.88 ms)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:22:00
End at: 2019-03-27 12:22:30
Local clock offset: -0.109 ms
Remote clock offset: -0.429 ms

# Below is generated by plot.py at 2019-03-27 14:35:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 703.30 Mbit/s
  95th percentile per-packet one-way delay: 143.818 ms
  Loss rate: 0.60%
-- Flow 1:
  Average throughput: 452.48 Mbit/s
  95th percentile per-packet one-way delay: 125.262 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 344.42 Mbit/s
  95th percentile per-packet one-way delay: 162.004 ms
  Loss rate: 0.81%
-- Flow 3:
  Average throughput: 102.69 Mbit/s
  95th percentile per-packet one-way delay: 63.953 ms
  Loss rate: 1.67%
Run 4: Report of Indigo-MusesC5 — Data Link
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:58:28
End at: 2019-03-27 12:58:58
Local clock offset: -0.14 ms
Remote clock offset: 0.136 ms

# Below is generated by plot.py at 2019-03-27 14:40:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 711.21 Mbit/s
95th percentile per-packet one-way delay: 122.393 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 454.08 Mbit/s
95th percentile per-packet one-way delay: 126.998 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 365.38 Mbit/s
95th percentile per-packet one-way delay: 99.055 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 86.98 Mbit/s
95th percentile per-packet one-way delay: 63.290 ms
Loss rate: 2.27%
Run 5: Report of Indigo-MusesC5 — Data Link

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

- Flow 1 ingress (mean 454.34 Mbit/s)
- Flow 1 egress (mean 454.08 Mbit/s)
- Flow 2 ingress (mean 365.87 Mbit/s)
- Flow 2 egress (mean 365.38 Mbit/s)
- Flow 3 ingress (mean 87.52 Mbit/s)
- Flow 3 egress (mean 86.98 Mbit/s)

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

- Flow 1 (95th percentile 127.00 ms)
- Flow 2 (95th percentile 99.06 ms)
- Flow 3 (95th percentile 63.29 ms)
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 10:17:18
End at: 2019-03-27 10:17:48
Local clock offset: -0.095 ms
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2019-03-27 14:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.98 Mbit/s
95th percentile per-packet one-way delay: 73.615 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 380.08 Mbit/s
95th percentile per-packet one-way delay: 71.626 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 322.60 Mbit/s
95th percentile per-packet one-way delay: 91.146 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 216.63 Mbit/s
95th percentile per-packet one-way delay: 67.131 ms
Loss rate: 2.16%
Run 1: Report of Indigo-MusesD — Data Link

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

Start at: 2019-03-27 10:53:44
End at: 2019-03-27 10:54:14
Local clock offset: -0.07 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-03-27 14:42:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 678.85 Mbit/s
95th percentile per-packet one-way delay: 96.590 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 404.34 Mbit/s
95th percentile per-packet one-way delay: 103.531 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 325.11 Mbit/s
95th percentile per-packet one-way delay: 78.163 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 256.00 Mbit/s
95th percentile per-packet one-way delay: 67.688 ms
Loss rate: 2.05%
Run 2: Report of Indigo-MusesD — Data Link

![Graph showing throughput and delay over time]

**Throughput (Mbps):**
- Flow 1 ingress (mean 404.10 Mbps)
- Flow 1 egress (mean 404.34 Mbps)
- Flow 2 ingress (mean 325.23 Mbps)
- Flow 2 egress (mean 325.11 Mbps)
- Flow 3 ingress (mean 257.02 Mbps)
- Flow 3 egress (mean 256.00 Mbps)

**Per-packet one way delay (ms):**
- Flow 1 (95th percentile 103.53 ms)
- Flow 2 (95th percentile 78.16 ms)
- Flow 3 (95th percentile 67.69 ms)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 11:30:11
End at: 2019-03-27 11:30:41
Local clock offset: -0.014 ms
Remote clock offset: -0.916 ms

# Below is generated by plot.py at 2019-03-27 14:42:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 604.73 Mbit/s
95th percentile per-packet one-way delay: 87.572 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 396.88 Mbit/s
95th percentile per-packet one-way delay: 91.497 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 297.40 Mbit/s
95th percentile per-packet one-way delay: 76.202 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 65.34 Mbit/s
95th percentile per-packet one-way delay: 64.590 ms
Loss rate: 2.58%
Run 3: Report of Indigo-MusesD — Data Link

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

- Flow 1 ingress (mean 396.64 Mbit/s)
- Flow 2 ingress (mean 297.60 Mbit/s)
- Flow 3 ingress (mean 65.87 Mbit/s)
- Flow 1 egress (mean 396.88 Mbit/s)
- Flow 2 egress (mean 297.40 Mbit/s)
- Flow 3 egress (mean 65.34 Mbit/s)

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

- Flow 1 (95th percentile 91.50 ms)
- Flow 2 (95th percentile 76.20 ms)
- Flow 3 (95th percentile 64.59 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:07:34
End at: 2019-03-27 12:08:04
Local clock offset: -0.117 ms
Remote clock offset: -0.163 ms

# Below is generated by plot.py at 2019-03-27 14:42:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 651.52 Mbit/s
95th percentile per-packet one-way delay: 89.674 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 388.05 Mbit/s
95th percentile per-packet one-way delay: 82.593 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 311.88 Mbit/s
95th percentile per-packet one-way delay: 103.164 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 241.18 Mbit/s
95th percentile per-packet one-way delay: 66.531 ms
Loss rate: 2.34%
Run 4: Report of Indigo-MusesD — Data Link

[Graph showing throughput and round-trip time over time for different flows]
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:43:51
End at: 2019-03-27 12:44:21
Local clock offset: -0.116 ms
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2019-03-27 14:42:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 641.14 Mbit/s
95th percentile per-packet one-way delay: 74.651 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 364.95 Mbit/s
95th percentile per-packet one-way delay: 86.874 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 336.36 Mbit/s
95th percentile per-packet one-way delay: 67.868 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 224.48 Mbit/s
95th percentile per-packet one-way delay: 65.908 ms
Loss rate: 2.37%
Run 5: Report of Indigo-MusesD — Data Link

![Graph of Throughput vs Time for Flow 1 ingress (mean 364.83 Mbit/s) and Flow 1 egress (mean 364.95 Mbit/s), Flow 2 ingress (mean 336.00 Mbit/s) and Flow 2 egress (mean 336.56 Mbit/s), Flow 3 ingress (mean 226.16 Mbit/s) and Flow 3 egress (mean 224.48 Mbit/s).]

![Graph of Per-packet one-way delay vs Time for Flow 1 (95th percentile 86.87 ms) and Flow 2 (95th percentile 67.87 ms), Flow 3 (95th percentile 65.91 ms).]
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 10:15:27
End at: 2019-03-27 10:15:57
Local clock offset: -0.108 ms
Remote clock offset: 0.258 ms

# Below is generated by plot.py at 2019-03-27 14:46:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 791.96 Mbit/s
95th percentile per-packet one-way delay: 87.680 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 466.61 Mbit/s
95th percentile per-packet one-way delay: 96.852 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 390.69 Mbit/s
95th percentile per-packet one-way delay: 75.483 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 285.72 Mbit/s
95th percentile per-packet one-way delay: 66.244 ms
Loss rate: 2.55%
Run 1: Report of Indigo-MusesT — Data Link
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 10:51:53
End at: 2019-03-27 10:52:23
Local clock offset: -0.091 ms
Remote clock offset: 0.164 ms

# Below is generated by plot.py at 2019-03-27 14:49:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 788.86 Mbit/s
  95th percentile per-packet one-way delay: 93.408 ms
  Loss rate: 0.70%
-- Flow 1:
  Average throughput: 462.59 Mbit/s
  95th percentile per-packet one-way delay: 97.363 ms
  Loss rate: 0.36%
-- Flow 2:
  Average throughput: 398.92 Mbit/s
  95th percentile per-packet one-way delay: 85.486 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 264.99 Mbit/s
  95th percentile per-packet one-way delay: 66.609 ms
  Loss rate: 2.68%
Run 2: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingress (mean 462.16 Mb/s)**
- **Flow 2 ingress (mean 399.98 Mb/s)**
- **Flow 3 ingress (mean 267.45 Mb/s)**
- **Flow 1 egress (mean 462.59 Mb/s)**
- **Flow 2 egress (mean 398.92 Mb/s)**
- **Flow 3 egress (mean 264.99 Mb/s)**

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

- **Flow 1 (95th percentile 97.36 ms)**
- **Flow 2 (95th percentile 85.49 ms)**
- **Flow 3 (95th percentile 66.61 ms)**

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Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 11:28:12
End at: 2019-03-27 11:28:42
Local clock offset: -0.024 ms
Remote clock offset: -0.746 ms

# Below is generated by plot.py at 2019-03-27 14:52:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 728.44 Mbit/s
95th percentile per-packet one-way delay: 101.049 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 423.28 Mbit/s
95th percentile per-packet one-way delay: 110.375 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 360.68 Mbit/s
95th percentile per-packet one-way delay: 78.645 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 283.16 Mbit/s
95th percentile per-packet one-way delay: 79.472 ms
Loss rate: 2.12%
Run 3: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingess (mean 422.52 Mbit/s)**
- **Flow 1 egress (mean 423.28 Mbit/s)**
- **Flow 2 ingess (mean 361.66 Mbit/s)**
- **Flow 2 egress (mean 360.68 Mbit/s)**
- **Flow 3 ingess (mean 294.42 Mbit/s)**
- **Flow 3 egress (mean 283.16 Mbit/s)**

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

- **Flow 1 (95th percentile 110.38 ms)**
- **Flow 2 (95th percentile 78.64 ms)**
- **Flow 3 (95th percentile 79.47 ms)**
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:05:36
End at: 2019-03-27 12:06:06
Local clock offset: -0.074 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.83 Mbit/s
95th percentile per-packet one-way delay: 100.002 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 434.89 Mbit/s
95th percentile per-packet one-way delay: 104.244 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 379.53 Mbit/s
95th percentile per-packet one-way delay: 94.724 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 280.37 Mbit/s
95th percentile per-packet one-way delay: 72.268 ms
Loss rate: 2.12%
Run 4: Report of Indigo-MusesT — Data Link

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

- **Flow 1** ingress (mean 433.94 Mbit/s) and egress (mean 434.99 Mbit/s)
- **Flow 2** ingress (mean 379.91 Mbit/s) and egress (mean 379.53 Mbit/s)
- **Flow 3** ingress (mean 281.47 Mbit/s) and egress (mean 280.37 Mbit/s)

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

- **Flow 1** (95th percentile 104.24 ms)
- **Flow 2** (95th percentile 94.72 ms)
- **Flow 3** (95th percentile 72.27 ms)
Run 5: Statistics of Indigo-MusesTK

Start at: 2019-03-27 12:42:02
End at: 2019-03-27 12:42:32
Local clock offset: -0.15 ms
Remote clock offset: -0.248 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 712.67 Mbit/s
95th percentile per-packet one-way delay: 95.353 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 445.62 Mbit/s
95th percentile per-packet one-way delay: 111.783 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 373.71 Mbit/s
95th percentile per-packet one-way delay: 78.968 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 99.70 Mbit/s
95th percentile per-packet one-way delay: 63.773 ms
Loss rate: 2.05%
Run 5: Report of Indigo-MusesT — Data Link

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

Legend for Graph 1:
- Flow 1 ingress (mean 445.85 Mbit/s)
- Flow 1 egress (mean 445.62 Mbit/s)
- Flow 2 ingress (mean 374.34 Mbit/s)
- Flow 2 egress (mean 373.71 Mbit/s)
- Flow 3 ingress (mean 100.27 Mbit/s)
- Flow 3 egress (mean 99.70 Mbit/s)

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

Legend for Graph 2:
- Flow 1 (95th percentile 111.78 ms)
- Flow 2 (95th percentile 78.97 ms)
- Flow 3 (95th percentile 63.77 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 10:30:24
End at: 2019-03-27 10:30:54
Local clock offset: -0.069 ms
Remote clock offset: -0.718 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 36.06 Mbit/s
  95th percentile per-packet one-way delay: 64.760 ms
  Loss rate: 1.08%
-- Flow 1:
  Average throughput: 23.29 Mbit/s
  95th percentile per-packet one-way delay: 64.878 ms
  Loss rate: 0.84%
-- Flow 2:
  Average throughput: 15.49 Mbit/s
  95th percentile per-packet one-way delay: 64.637 ms
  Loss rate: 1.27%
-- Flow 3:
  Average throughput: 7.60 Mbit/s
  95th percentile per-packet one-way delay: 64.398 ms
  Loss rate: 2.57%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 11:06:52
End at: 2019-03-27 11:07:22
Local clock offset: -0.07 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 64.523 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 20.86 Mbit/s
95th percentile per-packet one-way delay: 64.807 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 63.967 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 63.936 ms
Loss rate: 2.56%
Run 2: Report of LEDBAT — Data Link

- **Throughput vs. Time (s)**
  - Dashed blue line: Flow 1 ingress, mean 20.88 Mbit/s
  - Solid blue line: Flow 1 egress, mean 20.86 Mbit/s
  - Dashed green line: Flow 2 ingress, mean 15.57 Mbit/s
  - Solid green line: Flow 2 egress, mean 15.47 Mbit/s
  - Dashed red line: Flow 3 ingress, mean 7.67 Mbit/s
  - Solid red line: Flow 3 egress, mean 7.37 Mbit/s

- **Per packet one way delay (ms)**
  - Blue dotted line: Flow 1, 95th percentile 64.81 ms
  - Green dotted line: Flow 2, 95th percentile 63.97 ms
  - Red dotted line: Flow 3, 95th percentile 63.94 ms
Run 3: Statistics of LEDBAT

End at: 2019-03-27 11:44:23
Local clock offset: -0.008 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 64.685 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 23.09 Mbit/s
95th percentile per-packet one-way delay: 65.033 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 15.39 Mbit/s
95th percentile per-packet one-way delay: 63.870 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 64.207 ms
Loss rate: 2.57%
Run 3: Report of LEDBAT — Data Link

![Graph showing throughput and packet delay for Flow 1, Flow 2, and Flow 3](image)

- **Flow 1**
  - Ingress: Mean 23.19 Mbit/s
  - Egress: Mean 23.09 Mbit/s

- **Flow 2**
  - Ingress: Mean 15.49 Mbit/s
  - Egress: Mean 15.39 Mbit/s

- **Flow 3**
  - Ingress: Mean 7.67 Mbit/s
  - Egress: Mean 7.57 Mbit/s

![Graph showing packet delay distribution for Flow 1, Flow 2, and Flow 3](image)

- **Flow 1** (95th percentile: 65.03 ms)
- **Flow 2** (95th percentile: 63.87 ms)
- **Flow 3** (95th percentile: 64.21 ms)
Run 4: Statistics of LEDBAT

Start at: 2019-03-27 12:20:44
End at: 2019-03-27 12:21:14
Local clock offset: -0.118 ms
Remote clock offset: -0.378 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.00 Mbit/s
95th percentile per-packet one-way delay: 64.078 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 23.25 Mbit/s
95th percentile per-packet one-way delay: 64.091 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 64.084 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 64.022 ms
Loss rate: 2.56%
Run 4: Report of LEDBAT — Data Link

![Graph of throughput and packet round trip time](image)

- Flow 1 ingress (mean 23.35 Mbit/s)
- Flow 1 egress (mean 23.25 Mbit/s)
- Flow 2 ingress (mean 15.57 Mbit/s)
- Flow 2 egress (mean 15.47 Mbit/s)
- Flow 3 ingress (mean 7.69 Mbit/s)
- Flow 3 egress (mean 7.59 Mbit/s)

![Graph of packet round trip time](image)

- Flow 1 (95th percentile 64.09 ms)
- Flow 2 (95th percentile 64.08 ms)
- Flow 3 (95th percentile 64.02 ms)
Run 5: Statistics of LEDBAT

Start at: 2019-03-27 12:57:12
End at: 2019-03-27 12:57:42
Local clock offset: -0.113 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-03-27 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 64.812 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 23.12 Mbit/s
95th percentile per-packet one-way delay: 64.888 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 15.35 Mbit/s
95th percentile per-packet one-way delay: 64.957 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 63.381 ms
Loss rate: 2.56%
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 10:26:37
End at: 2019-03-27 10:27:07
Local clock offset: -0.101 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-03-27 15:07:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 679.64 Mbit/s
  95th percentile per-packet one-way delay: 215.280 ms
  Loss rate: 6.28%
-- Flow 1:
  Average throughput: 391.35 Mbit/s
  95th percentile per-packet one-way delay: 220.015 ms
  Loss rate: 9.62%
-- Flow 2:
  Average throughput: 323.21 Mbit/s
  95th percentile per-packet one-way delay: 204.583 ms
  Loss rate: 1.46%
-- Flow 3:
  Average throughput: 242.26 Mbit/s
  95th percentile per-packet one-way delay: 100.396 ms
  Loss rate: 1.52%
Run 1: Report of PCC-Allegro — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 433.01 Mbit/s)
Flow 1 egress (mean 391.35 Mbit/s)
Flow 2 ingress (mean 325.89 Mbit/s)
Flow 2 egress (mean 323.21 Mbit/s)
Flow 3 ingress (mean 242.85 Mbit/s)
Flow 3 egress (mean 242.26 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 220.01 ms)
Flow 2 (95th percentile 204.58 ms)
Flow 3 (95th percentile 100.40 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 11:03:07
End at: 2019-03-27 11:03:37
Local clock offset: -0.063 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-03-27 15:07:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 623.59 Mbit/s
95th percentile per-packet one-way delay: 216.088 ms
Loss rate: 9.86%
-- Flow 1:
Average throughput: 380.45 Mbit/s
95th percentile per-packet one-way delay: 303.165 ms
Loss rate: 14.65%
-- Flow 2:
Average throughput: 245.09 Mbit/s
95th percentile per-packet one-way delay: 154.546 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 246.34 Mbit/s
95th percentile per-packet one-way delay: 145.293 ms
Loss rate: 1.43%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

End at: 2019-03-27 11:40:27
Local clock offset: 0.006 ms
Remote clock offset: 0.151 ms

# Below is generated by plot.py at 2019-03-27 15:07:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 549.24 Mbit/s
  95th percentile per-packet one-way delay: 185.552 ms
  Loss rate: 1.35%
-- Flow 1:
  Average throughput: 300.11 Mbit/s
  95th percentile per-packet one-way delay: 141.536 ms
  Loss rate: 1.29%
-- Flow 2:
  Average throughput: 258.86 Mbit/s
  95th percentile per-packet one-way delay: 251.223 ms
  Loss rate: 1.75%
-- Flow 3:
  Average throughput: 237.04 Mbit/s
  95th percentile per-packet one-way delay: 85.606 ms
  Loss rate: 0.71%
Run 3: Report of PCC-Allegro — Data Link

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

Legend:
- Flow 1 ingress (mean 302.75 Mbit/s)
- Flow 1 egress (mean 300.11 Mbit/s)
- Flow 2 ingress (mean 261.80 Mbit/s)
- Flow 2 egress (mean 258.86 Mbit/s)
- Flow 3 ingress (mean 234.97 Mbit/s)
- Flow 3 egress (mean 237.04 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 141.54 ms)
- Flow 2 (95th percentile 251.22 ms)
- Flow 3 (95th percentile 85.61 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 12:17:01
End at: 2019-03-27 12:17:31
Local clock offset: -0.124 ms
Remote clock offset: -0.418 ms

# Below is generated by plot.py at 2019-03-27 15:07:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 620.86 Mbit/s
95th percentile per-packet one-way delay: 136.101 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 340.19 Mbit/s
95th percentile per-packet one-way delay: 143.251 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 304.76 Mbit/s
95th percentile per-packet one-way delay: 80.676 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 239.86 Mbit/s
95th percentile per-packet one-way delay: 126.271 ms
Loss rate: 1.52%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 12:53:26
End at: 2019-03-27 12:53:56
Local clock offset: -0.135 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2019-03-27 15:10:57
# Datalink statistics
# Total of 3 flows:
Average throughput: 607.76 Mbit/s
95th percentile per-packet one-way delay: 104.029 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 315.58 Mbit/s
95th percentile per-packet one-way delay: 100.634 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 322.29 Mbit/s
95th percentile per-packet one-way delay: 84.161 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 240.04 Mbit/s
95th percentile per-packet one-way delay: 195.455 ms
Loss rate: 2.54%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 10:24:39
End at: 2019-03-27 10:25:10
Local clock offset: -0.104 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2019-03-27 15:10:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.48 Mbit/s
95th percentile per-packet one-way delay: 170.360 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 259.94 Mbit/s
95th percentile per-packet one-way delay: 142.941 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 284.09 Mbit/s
95th percentile per-packet one-way delay: 180.091 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 97.89 Mbit/s
95th percentile per-packet one-way delay: 64.324 ms
Loss rate: 1.70%
Run 1: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 261.93 Mbit/s)
- Flow 1 egress (mean 259.94 Mbit/s)
- Flow 2 ingress (mean 288.30 Mbit/s)
- Flow 2 egress (mean 284.09 Mbit/s)
- Flow 3 ingress (mean 98.31 Mbit/s)
- Flow 3 egress (mean 97.89 Mbit/s)

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

- Flow 1 (95th percentile 142.94 ms)
- Flow 2 (95th percentile 180.09 ms)
- Flow 3 (95th percentile 64.32 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 11:01:10
End at: 2019-03-27 11:01:40
Local clock offset: -0.08 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-03-27 15:10:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 470.93 Mbit/s
  95th percentile per-packet one-way delay: 165.249 ms
  Loss rate: 2.64%
-- Flow 1:
  Average throughput: 270.37 Mbit/s
  95th percentile per-packet one-way delay: 169.581 ms
  Loss rate: 3.10%
-- Flow 2:
  Average throughput: 217.73 Mbit/s
  95th percentile per-packet one-way delay: 110.553 ms
  Loss rate: 2.21%
-- Flow 3:
  Average throughput: 171.41 Mbit/s
  95th percentile per-packet one-way delay: 110.079 ms
  Loss rate: 1.51%
Run 2: Report of PCC-Expr — Data Link

![Throughput Graph](image)

![Delay Graph](image)
Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 11:37:53
End at: 2019-03-27 11:38:23
Local clock offset: 0.007 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2019-03-27 15:10:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 434.34 Mbit/s
  95th percentile per-packet one-way delay: 159.672 ms
  Loss rate: 1.24%
-- Flow 1:
  Average throughput: 243.33 Mbit/s
  95th percentile per-packet one-way delay: 159.764 ms
  Loss rate: 1.03%
-- Flow 2:
  Average throughput: 204.10 Mbit/s
  95th percentile per-packet one-way delay: 200.886 ms
  Loss rate: 1.52%
-- Flow 3:
  Average throughput: 170.10 Mbit/s
  95th percentile per-packet one-way delay: 68.734 ms
  Loss rate: 1.48%
Run 3: Report of PCC-Expr — Data Link

![Graph showing throughput and flow delays over time]

- Flow 1 ingress (mean 244.82 Mbps)
- Flow 1 egress (mean 243.33 Mbps)
- Flow 2 ingress (mean 235.87 Mbps)
- Flow 2 egress (mean 204.10 Mbps)
- Flow 3 ingress (mean 170.44 Mbps)
- Flow 3 egress (mean 170.10 Mbps)

Flow 1 (95th percentile 159.76 ms)
Flow 2 (95th percentile 200.89 ms)
Flow 3 (95th percentile 68.73 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 12:15:07
End at: 2019-03-27 12:15:37
Local clock offset: -0.101 ms
Remote clock offset: -0.195 ms

# Below is generated by plot.py at 2019-03-27 15:17:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 439.56 Mbit/s
  95th percentile per-packet one-way delay: 116.410 ms
  Loss rate: 0.89%
-- Flow 1:
  Average throughput: 270.61 Mbit/s
  95th percentile per-packet one-way delay: 140.253 ms
  Loss rate: 0.91%
-- Flow 2:
  Average throughput: 207.56 Mbit/s
  95th percentile per-packet one-way delay: 67.628 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 95.51 Mbit/s
  95th percentile per-packet one-way delay: 64.330 ms
  Loss rate: 1.56%
Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 12:51:24
End at: 2019-03-27 12:51:54
Local clock offset: -0.162 ms
Remote clock offset: -0.357 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 511.04 Mbit/s
  95th percentile per-packet one-way delay: 165.514 ms
  Loss rate: 1.45%
-- Flow 1:
  Average throughput: 305.16 Mbit/s
  95th percentile per-packet one-way delay: 168.301 ms
  Loss rate: 1.80%
-- Flow 2:
  Average throughput: 224.70 Mbit/s
  95th percentile per-packet one-way delay: 90.385 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 173.58 Mbit/s
  95th percentile per-packet one-way delay: 68.558 ms
  Loss rate: 1.66%
Run 5: Report of PCC-Expr — Data Link

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

- **Flow 1 ingress** (mean 309.46 Mbit/s)
- **Flow 1 egress** (mean 305.16 Mbit/s)
- **Flow 2 ingress** (mean 224.72 Mbit/s)
- **Flow 2 egress** (mean 224.70 Mbit/s)
- **Flow 3 ingress** (mean 174.24 Mbit/s)
- **Flow 3 egress** (mean 173.58 Mbit/s)

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

- **Flow 1** (95th percentile 168.30 ms)
- **Flow 2** (95th percentile 90.39 ms)
- **Flow 3** (95th percentile 68.56 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 10:09:11
End at: 2019-03-27 10:09:41
Local clock offset: -0.111 ms
Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.15 Mbit/s
95th percentile per-packet one-way delay: 63.316 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 57.39 Mbit/s
95th percentile per-packet one-way delay: 63.370 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 49.20 Mbit/s
95th percentile per-packet one-way delay: 63.128 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 52.97 Mbit/s
95th percentile per-packet one-way delay: 62.955 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 10:45:33
End at: 2019-03-27 10:46:03
Local clock offset: -0.075 ms
Remote clock offset: -0.286 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.52 Mbit/s
  95th percentile per-packet one-way delay: 63.753 ms
  Loss rate: 1.06%
-- Flow 1:
  Average throughput: 62.67 Mbit/s
  95th percentile per-packet one-way delay: 63.135 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 35.22 Mbit/s
  95th percentile per-packet one-way delay: 63.892 ms
  Loss rate: 1.30%
-- Flow 3:
  Average throughput: 19.80 Mbit/s
  95th percentile per-packet one-way delay: 63.450 ms
  Loss rate: 4.66%
Run 2: Report of QUIC Cubic — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 62.76 Mbit/s)
- Blue solid line: Flow 1 egress (mean 62.67 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 35.46 Mbit/s)
- Green solid line: Flow 2 egress (mean 35.22 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 20.49 Mbit/s)
- Red solid line: Flow 3 egress (mean 19.80 Mbit/s)
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 11:21:45
End at: 2019-03-27 11:22:15
Local clock offset: -0.052 ms
Remote clock offset: 0.425 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.01 Mbit/s
95th percentile per-packet one-way delay: 62.961 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 62.71 Mbit/s
95th percentile per-packet one-way delay: 63.000 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 62.704 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 15.77 Mbit/s
95th percentile per-packet one-way delay: 62.783 ms
Loss rate: 0.95%
Run 3: Report of QUIC Cubic — Data Link

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

**Throughput (Mbps)**

- **Flow 1 ingress (mean 62.84 Mbps)**
- **Flow 1 egress (mean 62.71 Mbps)**
- **Flow 2 ingress (mean 51.85 Mbps)**
- **Flow 2 egress (mean 51.63 Mbps)**
- **Flow 3 ingress (mean 15.71 Mbps)**
- **Flow 3 egress (mean 15.77 Mbps)**

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

- **Flow 1 (95th percentile 63.00 ms)**
- **Flow 2 (95th percentile 62.70 ms)**
- **Flow 3 (95th percentile 62.78 ms)**
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 11:59:16
End at: 2019-03-27 11:59:46
Local clock offset: -0.04 ms
Remote clock offset: -0.315 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 63.424 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 63.256 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 54.26 Mbit/s
95th percentile per-packet one-way delay: 63.481 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 63.292 ms
Loss rate: 0.61%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 12:35:52
End at: 2019-03-27 12:36:22
Local clock offset: -0.131 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.79 Mbit/s
95th percentile per-packet one-way delay: 63.016 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 68.96 Mbit/s
95th percentile per-packet one-way delay: 63.039 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 45.87 Mbit/s
95th percentile per-packet one-way delay: 62.912 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 16.48 Mbit/s
95th percentile per-packet one-way delay: 62.798 ms
Loss rate: 0.59%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-03-27 10:12:28
End at: 2019-03-27 10:12:58
Local clock offset: -0.13 ms
Remote clock offset: 0.271 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.221 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.263 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.921 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.000 ms
Loss rate: 1.45%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2019-03-27 10:48:51
End at: 2019-03-27 10:49:21
Local clock offset: -0.121 ms
Remote clock offset: 0.061 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.088 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.107 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.884 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.143 ms
  Loss rate: 1.10%
Run 2: Report of SCReAM — Data Link

![Graphs showing network performance metrics over time.]

- Throughput (Mbps)
- Packet size (ms)

Legend:
- 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)
Run 3: Statistics of SCReAM

Start at: 2019-03-27 11:25:06
End at: 2019-03-27 11:25:36
Local clock offset: -0.055 ms
Remote clock offset: 0.142 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.333 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.375 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.910 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.174 ms
Loss rate: 1.45%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2019-03-27 12:02:34
End at: 2019-03-27 12:03:04
Local clock offset: -0.076 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.562 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.178 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.344 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.695 ms
  Loss rate: 1.45%
Run 4: Report of SCReAM — Data Link

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

- **Throughput (Mbps)**: The upper graph displays throughput in Mbps over time, with different lines representing each flow (Flow 1 ingress, Flow 1 egress, Flow 2 ingress, Flow 2 egress, Flow 3 ingress, Flow 3 egress). The throughput fluctuates between 0.00 and 0.25 Mbps.

- **Per-packet one-way delay (ms)**: The lower graph shows the per-packet one-way delay in ms over time. The delay values range from 62.00 to 69.00 ms, with distinct colored markers indicating the 95th percentile delay for each flow (Flow 1, Flow 2, Flow 3).
Run 5: Statistics of SCReAM

Start at: 2019-03-27 12:39:02
End at: 2019-03-27 12:39:32
Local clock offset: -0.151 ms
Remote clock offset: -0.32 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.349 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.366 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.147 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.357 ms
Loss rate: 1.08%
Run 5: Report of SCReAM — Data Link

![Graph of Throughput (Mbps) and Packets per ms]
Run 1: Statistics of Sprout

Start at: 2019-03-27 10:05:55
End at: 2019-03-27 10:06:25
Local clock offset: -0.155 ms
Remote clock offset: 0.308 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.40 Mbit/s
95th percentile per-packet one-way delay: 63.535 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 63.302 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 6.74 Mbit/s
95th percentile per-packet one-way delay: 63.645 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 63.428 ms
Loss rate: 1.42%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-03-27 10:42:17
End at: 2019-03-27 10:42:47
Local clock offset: -0.092 ms
Remote clock offset: -0.367 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.24 Mbit/s
95th percentile per-packet one-way delay: 64.033 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 64.035 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 64.082 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 63.908 ms
Loss rate: 1.56%
Run 2: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 6.81 Mbit/s)**
- **Flow 1 egress (mean 6.80 Mbit/s)**
- **Flow 2 ingress (mean 6.52 Mbit/s)**
- **Flow 2 egress (mean 6.52 Mbit/s)**
- **Flow 3 ingress (mean 6.49 Mbit/s)**
- **Flow 3 egress (mean 6.47 Mbit/s)**

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

- **Flow 1 (95th percentile 64.03 ms)**
- **Flow 2 (95th percentile 64.08 ms)**
- **Flow 3 (95th percentile 63.91 ms)**
Run 3: Statistics of Sprout

Start at: 2019-03-27 11:18:35  
End at: 2019-03-27 11:19:05  
Local clock offset: -0.064 ms
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 63.888 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 63.962 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 63.784 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 63.769 ms
Loss rate: 1.56%
Run 3: Report of Sprout — Data Link

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

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

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Run 4: Statistics of Sprout

Start at: 2019-03-27 11:56:05
End at: 2019-03-27 11:56:35
Local clock offset: -0.017 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.34 Mbit/s
  95th percentile per-packet one-way delay: 63.915 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 6.78 Mbit/s
  95th percentile per-packet one-way delay: 64.027 ms
  Loss rate: 0.35%
-- Flow 2:
  Average throughput: 6.70 Mbit/s
  95th percentile per-packet one-way delay: 63.780 ms
  Loss rate: 0.77%
-- Flow 3:
  Average throughput: 6.49 Mbit/s
  95th percentile per-packet one-way delay: 63.835 ms
  Loss rate: 1.59%
Run 4: Report of Sprout — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.77 Mbps)
Flow 1 egress (mean 6.78 Mbps)
Flow 2 ingress (mean 6.70 Mbps)
Flow 2 egress (mean 6.70 Mbps)
Flow 3 ingress (mean 6.30 Mbps)
Flow 3 egress (mean 6.49 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 64.03 ms)
Flow 2 (95th percentile 63.78 ms)
Flow 3 (95th percentile 63.84 ms)
Run 5: Statistics of Sprout

Start at: 2019-03-27 12:32:37  
End at: 2019-03-27 12:33:07  
Local clock offset: -0.127 ms  
Remote clock offset: -0.418 ms

# Below is generated by plot.py at 2019-03-27 15:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.45 Mbit/s  
95th percentile per-packet one-way delay: 64.080 ms  
Loss rate: 0.64%
-- Flow 1:
Average throughput: 6.81 Mbit/s  
95th percentile per-packet one-way delay: 64.233 ms  
Loss rate: 0.50%
-- Flow 2:
Average throughput: 6.77 Mbit/s  
95th percentile per-packet one-way delay: 63.824 ms  
Loss rate: 0.67%
-- Flow 3:
Average throughput: 6.57 Mbit/s  
95th percentile per-packet one-way delay: 63.944 ms  
Loss rate: 1.03%
Run 5: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 10:07:09
End at: 2019-03-27 10:07:39
Local clock offset: -0.153 ms
Remote clock offset: 0.231 ms

# Below is generated by plot.py at 2019-03-27 15:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.18 Mbit/s
95th percentile per-packet one-way delay: 65.098 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 223.10 Mbit/s
95th percentile per-packet one-way delay: 65.049 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 224.43 Mbit/s
95th percentile per-packet one-way delay: 65.102 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 212.25 Mbit/s
95th percentile per-packet one-way delay: 65.278 ms
Loss rate: 0.65%
Run 1: Report of TaoVA-100x — Data Link

[Graph showing throughput and per-packet round-trip delay over time for different flows, with mean throughputs noted.]
Run 2: Statistics of TaoVA-100x

Start at: 2019-03-27 10:43:31
End at: 2019-03-27 10:44:01
Local clock offset: ~0.072 ms
Remote clock offset: ~0.137 ms

# Below is generated by plot.py at 2019-03-27 15:25:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 445.26 Mbit/s
  95th percentile per-packet one-way delay: 64.623 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 223.99 Mbit/s
  95th percentile per-packet one-way delay: 65.437 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 223.28 Mbit/s
  95th percentile per-packet one-way delay: 64.085 ms
  Loss rate: 0.68%
-- Flow 3:
  Average throughput: 221.13 Mbit/s
  95th percentile per-packet one-way delay: 63.915 ms
  Loss rate: 1.36%
Run 2: Report of TaoVA-100x — Data Link

![Throughput graph](image1)

![Delay graph](image2)

Flow 1 ingress (mean 224.01 Mbit/s)
Flow 1 egress (mean 223.99 Mbit/s)
Flow 2 ingress (mean 223.38 Mbit/s)
Flow 2 egress (mean 223.28 Mbit/s)
Flow 3 ingress (mean 223.36 Mbit/s)
Flow 3 egress (mean 221.13 Mbit/s)

Flow 1 (95th percentile 65.44 ms)
Flow 2 (95th percentile 64.08 ms)
Flow 3 (95th percentile 63.91 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-03-27 11:19:49
End at: 2019-03-27 11:20:19
Local clock offset: -0.053 ms
Remote clock offset: 0.112 ms

# Below is generated by plot.py at 2019-03-27 15:25:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.63 Mbit/s
95th percentile per-packet one-way delay: 65.800 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 215.82 Mbit/s
95th percentile per-packet one-way delay: 66.289 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 209.40 Mbit/s
95th percentile per-packet one-way delay: 65.320 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 189.85 Mbit/s
95th percentile per-packet one-way delay: 64.700 ms
Loss rate: 1.41%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 11:57:19
End at: 2019-03-27 11:57:49
Local clock offset: -0.032 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-03-27 15:25:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 426.38 Mbit/s
  95th percentile per-packet one-way delay: 67.627 ms
  Loss rate: 0.73%
-- Flow 1:
  Average throughput: 219.38 Mbit/s
  95th percentile per-packet one-way delay: 65.734 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 207.99 Mbit/s
  95th percentile per-packet one-way delay: 74.431 ms
  Loss rate: 0.73%
-- Flow 3:
  Average throughput: 208.97 Mbit/s
  95th percentile per-packet one-way delay: 64.421 ms
  Loss rate: 1.55%
Run 4: Report of TaoVA-100x — Data Link

![Graph showing network performance metrics over time. The top graph displays throughput in Mbps over time, with lines indicating different flows. The bottom graph shows per-packet one-way delay in ms.](image)

- **Throughput**:
  - Flow 1 ingress (mean 219.48 Mbps)
  - Flow 1 egress (mean 219.38 Mbps)
  - Flow 2 ingress (mean 208.19 Mbps)
  - Flow 2 egress (mean 207.99 Mbps)
  - Flow 3 ingress (mean 209.54 Mbps)
  - Flow 3 egress (mean 208.97 Mbps)

- **Delay**:
  - Flow 1 (95th percentile 65.73 ms)
  - Flow 2 (95th percentile 74.43 ms)
  - Flow 3 (95th percentile 64.42 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2019-03-27 12:33:51
End at: 2019-03-27 12:34:21
Local clock offset: -0.131 ms
Remote clock offset: -0.209 ms

# Below is generated by plot.py at 2019-03-27 15:25:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 413.11 Mbit/s
95th percentile per-packet one-way delay: 68.686 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 214.06 Mbit/s
95th percentile per-packet one-way delay: 66.801 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 201.28 Mbit/s
95th percentile per-packet one-way delay: 69.036 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 198.02 Mbit/s
95th percentile per-packet one-way delay: 74.319 ms
Loss rate: 0.76%
Run 5: Report of TaoVA-100x — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows with annotations for mean and 95th percentile delay.]
Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 10:10:30
End at: 2019-03-27 10:11:00
Local clock offset: -0.154 ms
Remote clock offset: 0.704 ms

# Below is generated by plot.py at 2019-03-27 15:25:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 772.58 Mbit/s
95th percentile per-packet one-way delay: 83.171 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 440.36 Mbit/s
95th percentile per-packet one-way delay: 72.694 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 394.90 Mbit/s
95th percentile per-packet one-way delay: 86.566 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 211.43 Mbit/s
95th percentile per-packet one-way delay: 62.737 ms
Loss rate: 1.38%
Run 1: Report of TCP Vegas — Data Link

![Graphs showing throughput and packet round-trip delay over time]

- Throughput in Mbps:
  - Flow 1 ingress (mean 440.45 Mbps)
  - Flow 1 egress (mean 440.36 Mbps)
  - Flow 2 ingress (mean 393.85 Mbps)
  - Flow 2 egress (mean 394.90 Mbps)
  - Flow 3 ingress (mean 211.69 Mbps)
  - Flow 3 egress (mean 211.43 Mbps)

- Packet round-trip delay in ms:
  - Flow 1 (95th percentile 72.69 ms)
  - Flow 2 (95th percentile 86.57 ms)
  - Flow 3 (95th percentile 62.74 ms)
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 10:46:52
End at: 2019-03-27 10:47:22
Local clock offset: -0.072 ms
Remote clock offset: -0.27 ms

# Below is generated by plot.py at 2019-03-27 15:34:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 822.05 Mbit/s
95th percentile per-packet one-way delay: 88.475 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 425.82 Mbit/s
95th percentile per-packet one-way delay: 90.248 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 402.15 Mbit/s
95th percentile per-packet one-way delay: 82.241 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 390.96 Mbit/s
95th percentile per-packet one-way delay: 80.492 ms
Loss rate: 1.50%
Run 2: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 425.85 Mbit/s)
- Flow 1 egress (mean 425.82 Mbit/s)
- Flow 2 ingress (mean 402.32 Mbit/s)
- Flow 2 egress (mean 402.15 Mbit/s)
- Flow 3 ingress (mean 390.85 Mbit/s)
- Flow 3 egress (mean 390.06 Mbit/s)

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

- Flow 1 (95th percentile 90.25 ms)
- Flow 2 (95th percentile 82.24 ms)
- Flow 3 (95th percentile 80.49 ms)
Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 11:23:08
End at: 2019-03-27 11:23:38
Local clock offset: -0.06 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2019-03-27 15:37:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.82 Mbit/s
95th percentile per-packet one-way delay: 114.349 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 398.29 Mbit/s
95th percentile per-packet one-way delay: 78.036 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 382.33 Mbit/s
95th percentile per-packet one-way delay: 116.107 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 298.53 Mbit/s
95th percentile per-packet one-way delay: 208.870 ms
Loss rate: 1.85%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 12:00:35
End at: 2019-03-27 12:01:05
Local clock offset: -0.063 ms
Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 817.06 Mbit/s
95th percentile per-packet one-way delay: 95.561 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 410.25 Mbit/s
95th percentile per-packet one-way delay: 96.084 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 419.54 Mbit/s
95th percentile per-packet one-way delay: 103.375 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 388.03 Mbit/s
95th percentile per-packet one-way delay: 80.228 ms
Loss rate: 1.49%
Run 4: Report of TCP Vegas — Data Link

![Graph showing throughput over time for different flows (Flow 1 ingress, Flow 1 egress, Flow 2 ingress, Flow 2 egress, Flow 3 ingress, Flow 3 egress).]

![Graph showing packet one way delay over time for different flows (Flow 1 95th percentile, Flow 2 95th percentile, Flow 3 95th percentile).]
Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 12:37:12
End at: 2019-03-27 12:37:42
Local clock offset: -0.108 ms
Remote clock offset: -0.389 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 644.85 Mbit/s
95th percentile per-packet one-way delay: 85.233 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 235.48 Mbit/s
95th percentile per-packet one-way delay: 66.297 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 412.71 Mbit/s
95th percentile per-packet one-way delay: 89.483 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 409.96 Mbit/s
95th percentile per-packet one-way delay: 87.786 ms
Loss rate: 1.43%
Run 5: Report of TCP Vegas — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 235.38 Mbps)
  - Flow 2 ingress (mean 413.01 Mbps)
  - Flow 3 ingress (mean 410.63 Mbps)
  - Flow 1 egress (mean 235.48 Mbps)
  - Flow 2 egress (mean 412.71 Mbps)
  - Flow 3 egress (mean 409.96 Mbps)

- **Delay (μs):**
  - Flow 1 (95th percentile 66.30 μs)
  - Flow 2 (95th percentile 69.48 μs)
  - Flow 3 (95th percentile 87.79 μs)
Run 1: Statistics of Verus

Start at: 2019-03-27 09:57:09
End at: 2019-03-27 09:57:39
Local clock offset: -0.137 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.24 Mbit/s
95th percentile per-packet one-way delay: 122.342 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 107.88 Mbit/s
95th percentile per-packet one-way delay: 115.618 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 106.69 Mbit/s
95th percentile per-packet one-way delay: 117.611 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 75.05 Mbit/s
95th percentile per-packet one-way delay: 181.939 ms
Loss rate: 0.03%
Run 2: Statistics of Verus

Start at: 2019-03-27 10:33:28
End at: 2019-03-27 10:33:58
Local clock offset: -0.095 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 285.49 Mbit/s
  95th percentile per-packet one-way delay: 170.254 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 168.26 Mbit/s
  95th percentile per-packet one-way delay: 186.448 ms
  Loss rate: 1.10%
-- Flow 2:
  Average throughput: 144.07 Mbit/s
  95th percentile per-packet one-way delay: 148.076 ms
  Loss rate: 0.79%
-- Flow 3:
  Average throughput: 66.87 Mbit/s
  95th percentile per-packet one-way delay: 92.690 ms
  Loss rate: 0.30%
Run 2: Report of Verus — Data Link

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

- Flow 1 ingress (mean 169.41 Mbit/s)
- Flow 1 egress (mean 168.26 Mbit/s)
- Flow 2 ingress (mean 143.70 Mbit/s)
- Flow 2 egress (mean 144.07 Mbit/s)
- Flow 3 ingress (mean 66.21 Mbit/s)
- Flow 3 egress (mean 66.87 Mbit/s)
Run 3: Statistics of Verus

Start at: 2019-03-27 11:09:56
End at: 2019-03-27 11:10:26
Local clock offset: -0.091 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.89 Mbit/s
95th percentile per-packet one-way delay: 106.944 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 124.79 Mbit/s
95th percentile per-packet one-way delay: 118.091 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 117.04 Mbit/s
95th percentile per-packet one-way delay: 91.902 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 80.303 ms
Loss rate: 4.44%
Run 3: Report of Verus — Data Link

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Flow 1 ingress (mean 124.76 Mbit/s)  |  Flow 1 egress (mean 124.79 Mbit/s)
Flow 2 ingress (mean 117.54 Mbit/s)  |  Flow 2 egress (mean 117.04 Mbit/s)
Flow 3 ingress (mean 57.59 Mbit/s)   |  Flow 3 egress (mean 55.72 Mbit/s)

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Flow 1 (95th percentile 118.09 ms)  |  Flow 2 (95th percentile 91.90 ms)  |  Flow 3 (95th percentile 80.30 ms)
Run 4: Statistics of Verus

Start at: 2019-03-27 11:47:10
End at: 2019-03-27 11:47:40
Local clock offset: 0.006 ms
Remote clock offset: -0.213 ms

# Below is generated by plot.py at 2019-03-27 15:39:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.51 Mbit/s
95th percentile per-packet one-way delay: 236.502 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 140.94 Mbit/s
95th percentile per-packet one-way delay: 236.594 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 101.99 Mbit/s
95th percentile per-packet one-way delay: 137.359 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 133.23 Mbit/s
95th percentile per-packet one-way delay: 271.890 ms
Loss rate: 7.35%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

End at: 2019-03-27 12:24:17
Local clock offset: -0.118 ms
Remote clock offset: -0.345 ms

# Below is generated by plot.py at 2019-03-27 15:40:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.32 Mbit/s
95th percentile per-packet one-way delay: 106.868 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 130.35 Mbit/s
95th percentile per-packet one-way delay: 137.811 ms
Loss rate: 2.85%
-- Flow 2:
Average throughput: 110.11 Mbit/s
95th percentile per-packet one-way delay: 118.730 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 76.18 Mbit/s
95th percentile per-packet one-way delay: 70.236 ms
Loss rate: 0.18%
Run 5: Report of Verus — Data Link

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

Start at: 2019-03-27 09:58:42
End at: 2019-03-27 09:59:12
Local clock offset: -0.151 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-03-27 15:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 459.04 Mbit/s
95th percentile per-packet one-way delay: 175.121 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 262.03 Mbit/s
95th percentile per-packet one-way delay: 202.613 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 215.11 Mbit/s
95th percentile per-packet one-way delay: 64.329 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 166.22 Mbit/s
95th percentile per-packet one-way delay: 86.677 ms
Loss rate: 1.84%
Run 1: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 262.92 Mbps)
- Flow 1 egress (mean 262.03 Mbps)
- Flow 2 ingress (mean 215.44 Mbps)
- Flow 2 egress (mean 215.11 Mbps)
- Flow 3 ingress (mean 167.14 Mbps)
- Flow 3 egress (mean 166.22 Mbps)

![Graph 2: Delay (ms)](image2)

- Flow 1 (95th percentile 202.61 ms)
- Flow 2 (95th percentile 64.33 ms)
- Flow 3 (95th percentile 86.68 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 10:35:09
End at: 2019-03-27 10:35:39
Local clock offset: -0.086 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-03-27 15:42:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 489.29 Mbit/s
  95th percentile per-packet one-way delay: 84.254 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 256.70 Mbit/s
  95th percentile per-packet one-way delay: 65.962 ms
  Loss rate: 0.57%
-- Flow 2:
  Average throughput: 283.08 Mbit/s
  95th percentile per-packet one-way delay: 96.531 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 136.80 Mbit/s
  95th percentile per-packet one-way delay: 127.976 ms
  Loss rate: 1.53%
Run 2: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 257.07 Mbps)
- Flow 1 egress (mean 256.70 Mbps)
- Flow 2 ingress (mean 283.04 Mbps)
- Flow 2 egress (mean 283.08 Mbps)
- Flow 3 ingress (mean 137.15 Mbps)
- Flow 3 egress (mean 136.88 Mbps)

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

- Flow 1 (95th percentile 65.96 ms)
- Flow 2 (95th percentile 96.53 ms)
- Flow 3 (95th percentile 127.98 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 11:11:31
End at: 2019-03-27 11:12:01
Local clock offset: -0.06 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-03-27 15:42:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.09 Mbit/s
95th percentile per-packet one-way delay: 79.514 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 294.27 Mbit/s
95th percentile per-packet one-way delay: 82.843 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 163.20 Mbit/s
95th percentile per-packet one-way delay: 88.704 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 96.51 Mbit/s
95th percentile per-packet one-way delay: 63.443 ms
Loss rate: 1.82%
Run 3: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress** (mean 294.36 Mb/s)
- **Flow 1 egress** (mean 294.47 Mb/s)
- **Flow 2 ingress** (mean 164.32 Mb/s)
- **Flow 2 egress** (mean 163.29 Mb/s)
- **Flow 3 ingress** (mean 97.08 Mb/s)
- **Flow 3 egress** (mean 96.51 Mb/s)
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 11:48:52
End at: 2019-03-27 11:49:22
Local clock offset: 0.029 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-03-27 15:42:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 462.64 Mbit/s
95th percentile per-packet one-way delay: 68.100 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 252.34 Mbit/s
95th percentile per-packet one-way delay: 68.226 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 228.74 Mbit/s
95th percentile per-packet one-way delay: 68.837 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 178.91 Mbit/s
95th percentile per-packet one-way delay: 66.959 ms
Loss rate: 2.92%
Run 4: Report of PCC-Vivace — Data Link

[Graph showing throughput over time with different flow characteristics and delays for each flow]

[Graph showing per-packet end-to-end delay with 95th percentile delays for each flow]
Run 5: Statistics of PCC-Vivace

End at: 2019-03-27 12:25:53
Local clock offset: -0.119 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2019-03-27 15:42:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 415.27 Mbit/s
95th percentile per-packet one-way delay: 66.939 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 229.42 Mbit/s
95th percentile per-packet one-way delay: 71.895 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 232.91 Mbit/s
95th percentile per-packet one-way delay: 64.149 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 63.697 ms
Loss rate: 2.25%
Run 5: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 229.94 Mbit/s)
- Flow 1 egress (mean 229.42 Mbit/s)
- Flow 2 ingress (mean 233.22 Mbit/s)
- Flow 2 egress (mean 232.91 Mbit/s)
- Flow 3 ingress (mean 96.99 Mbit/s)
- Flow 3 egress (mean 95.98 Mbit/s)

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

- Flow 1 (95th percentile 71.89 ms)
- Flow 2 (95th percentile 64.15 ms)
- Flow 3 (95th percentile 63.70 ms)
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 10:00:27
End at: 2019-03-27 10:00:57
Local clock offset: -0.164 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2019-03-27 15:42:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 63.281 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.379 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.191 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.197 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2019-03-27 10:36:56
End at: 2019-03-27 10:37:26
Local clock offset: -0.11 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2019-03-27 15:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.120 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.941 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.282 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-03-27 11:13:16
End at: 2019-03-27 11:13:46
Local clock offset: ~0.041 ms
Remote clock offset: 0.13 ms

# Below is generated by plot.py at 2019-03-27 15:42:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 63.333 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.362 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.304 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.038 ms
  Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-03-27 11:50:44
End at: 2019-03-27 11:51:14
Local clock offset: 0.025 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2019-03-27 15:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.332 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.423 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.283 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.104 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2019-03-27 12:27:05
End at: 2019-03-27 12:27:35
Local clock offset: -0.177 ms
Remote clock offset: -0.431 ms

# Below is generated by plot.py at 2019-03-27 15:42:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 63.810 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.857 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.435 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.175 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link