Pantheon Report

Generated at 2019-02-12 10:54:34 (UTC).
Data path: GCE Iowa on ens4 (local) →GCE Tokyo on ens4 (remote).
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 4.15.0-1026-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 @ d6d1a1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e65bb722943babcd2b090d2c64fcd4e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0edcbf90c077e64d
third_party/libutp @ b3465b942e282f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afbd942717625ee3a354cc2e802bd
third_party/pcc @ l1afc958fa0d66d18b623c091a55f8c872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8aad08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cc0f42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3dbb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366a35ec6178b01e31d4a46ad18c74f9415f19a26
  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 Iowa to GCE Tokyo, 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>
<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>5</td>
<td>466.44</td>
<td>450.35</td>
<td>409.89</td>
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<tr>
<td>Copa</td>
<td>5</td>
<td>294.41</td>
<td>280.51</td>
<td>234.48</td>
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<tr>
<td>TCP Cubic</td>
<td>5</td>
<td>525.82</td>
<td>478.68</td>
<td>415.36</td>
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<td>FillP</td>
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<td>576.03</td>
<td>348.39</td>
<td>262.70</td>
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<td>FillP-Sheep</td>
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<td>543.89</td>
<td>336.12</td>
<td>251.46</td>
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<td>Indigo</td>
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<td>425.19</td>
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<td>15.61</td>
<td>7.71</td>
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<td>PCC-Allegro</td>
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<td>347.70</td>
<td>249.63</td>
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<td>PCC-Expr</td>
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<td>247.90</td>
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<td>Verus</td>
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<td>167.03</td>
<td>107.12</td>
<td>106.33</td>
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<td>PCC-Vivace</td>
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<td>306.30</td>
<td>252.17</td>
<td>147.77</td>
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<td>WebRTC media</td>
<td>5</td>
<td>0.45</td>
<td>0.64</td>
<td>0.27</td>
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</table>
Run 1: Statistics of TCP BBR

Start at: 2019-02-12 04:28:10
End at: 2019-02-12 04:28:40
Local clock offset: -0.098 ms
Remote clock offset: -0.948 ms

# Below is generated by plot.py at 2019-02-12 07:46:09
# Datalink statistics
-- Total of 3 flows:
95th percentile per-packet one-way delay: 164.632 ms
Loss rate: 0.60%
-- Flow 1:
95th percentile per-packet one-way delay: 156.179 ms
Loss rate: 0.49%
-- Flow 2:
95th percentile per-packet one-way delay: 167.424 ms
Loss rate: 0.87%
-- Flow 3:
95th percentile per-packet one-way delay: 180.087 ms
Loss rate: 0.34%
Run 2: Statistics of TCP BBR

Start at: 2019-02-12 05:05:19
End at: 2019-02-12 05:05:49
Local clock offset: -0.039 ms
Remote clock offset: -1.388 ms

# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 946.19 Mbit/s
95th percentile per-packet one-way delay: 155.655 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 489.63 Mbit/s
95th percentile per-packet one-way delay: 157.789 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 488.52 Mbit/s
95th percentile per-packet one-way delay: 162.408 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 395.08 Mbit/s
95th percentile per-packet one-way delay: 110.205 ms
Loss rate: 0.94%
Run 2: Report of TCP BBR — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress** (mean 490.79 Mbps)
- **Flow 1 egress** (mean 489.63 Mbps)
- **Flow 2 ingress** (mean 496.89 Mbps)
- **Flow 2 egress** (mean 488.52 Mbps)
- **Flow 3 ingress** (mean 396.64 Mbps)
- **Flow 3 egress** (mean 395.08 Mbps)

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

- **Flow 1** (95th percentile 157.79 ms)
- **Flow 2** (95th percentile 162.41 ms)
- **Flow 3** (95th percentile 110.20 ms)
Run 3: Statistics of TCP BBR

Start at: 2019-02-12 05:42:08
End at: 2019-02-12 05:42:38
Local clock offset: 0.019 ms
Remote clock offset: -1.248 ms

# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 933.42 Mbit/s
95th percentile per-packet one-way delay: 185.252 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 503.18 Mbit/s
95th percentile per-packet one-way delay: 178.177 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 442.56 Mbit/s
95th percentile per-packet one-way delay: 169.431 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 405.91 Mbit/s
95th percentile per-packet one-way delay: 199.085 ms
Loss rate: 0.47%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2019-02-12 06:19:11
End at: 2019-02-12 06:19:41
Local clock offset: -0.177 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 905.27 Mbit/s
95th percentile per-packet one-way delay: 199.555 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 470.84 Mbit/s
95th percentile per-packet one-way delay: 195.544 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 427.62 Mbit/s
95th percentile per-packet one-way delay: 207.763 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 449.48 Mbit/s
95th percentile per-packet one-way delay: 174.426 ms
Loss rate: 0.84%
Run 5: Statistics of TCP BBR

Start at: 2019-02-12 06:56:01
End at: 2019-02-12 06:56:31
Local clock offset: -0.089 ms
Remote clock offset: -0.28 ms

# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 881.53 Mbit/s
95th percentile per-packet one-way delay: 169.406 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 450.90 Mbit/s
95th percentile per-packet one-way delay: 173.571 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 452.46 Mbit/s
95th percentile per-packet one-way delay: 95.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 389.22 Mbit/s
95th percentile per-packet one-way delay: 207.605 ms
Loss rate: 1.91%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-02-12 04:37:28
End at: 2019-02-12 04:37:58
Local clock offset: -0.047 ms
Remote clock offset: -0.746 ms

# Below is generated by plot.py at 2019-02-12 07:50:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.19 Mbit/s
95th percentile per-packet one-way delay: 84.840 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 284.44 Mbit/s
95th percentile per-packet one-way delay: 87.997 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 276.98 Mbit/s
95th percentile per-packet one-way delay: 87.601 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 235.52 Mbit/s
95th percentile per-packet one-way delay: 76.736 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-02-12 05:14:41
End at: 2019-02-12 05:15:11
Local clock offset: ~0.069 ms
Remote clock offset: ~0.805 ms

# Below is generated by plot.py at 2019-02-12 07:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 578.13 Mbit/s
95th percentile per-packet one-way delay: 85.611 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 307.84 Mbit/s
95th percentile per-packet one-way delay: 87.526 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 276.54 Mbit/s
95th percentile per-packet one-way delay: 83.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 259.28 Mbit/s
95th percentile per-packet one-way delay: 78.969 ms
Loss rate: 0.00%
Run 2: Report of Copa — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 307.96 Mbps)
  - Flow 1 egress (mean 307.84 Mbps)
  - Flow 2 ingress (mean 276.55 Mbps)
  - Flow 2 egress (mean 276.54 Mbps)
  - Flow 3 ingress (mean 259.28 Mbps)
  - Flow 3 egress (mean 259.28 Mbps)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 87.53 ms)
  - Flow 2 (95th percentile 83.36 ms)
  - Flow 3 (95th percentile 78.97 ms)
Run 3: Statistics of Copa

Start at: 2019-02-12 05:51:28
End at: 2019-02-12 05:51:58
Local clock offset: 0.008 ms
Remote clock offset: -0.647 ms

# Below is generated by plot.py at 2019-02-12 07:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 570.90 Mbit/s
95th percentile per-packet one-way delay: 83.313 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 302.74 Mbit/s
95th percentile per-packet one-way delay: 83.384 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 295.93 Mbit/s
95th percentile per-packet one-way delay: 77.306 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.76 Mbit/s
95th percentile per-packet one-way delay: 123.704 ms
Loss rate: 0.00%
Run 3: Report of Copa — Data Link

[Graph showing throughput and packet delay over time for different flows.]
Run 4: Statistics of Copa

Start at: 2019-02-12 06:28:36
End at: 2019-02-12 06:29:06
Local clock offset: -0.173 ms
Remote clock offset: -0.978 ms

# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 601.64 Mbit/s
  95th percentile per-packet one-way delay: 84.201 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 326.01 Mbit/s
  95th percentile per-packet one-way delay: 84.871 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 284.11 Mbit/s
  95th percentile per-packet one-way delay: 75.549 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 260.35 Mbit/s
  95th percentile per-packet one-way delay: 88.419 ms
  Loss rate: 0.02%
Run 5: Statistics of Copa

Start at: 2019-02-12 07:05:22
End at: 2019-02-12 07:05:52
Local clock offset: –0.106 ms
Remote clock offset: –1.049 ms

# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.69 Mbit/s
95th percentile per-packet one-way delay: 77.741 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 251.01 Mbit/s
95th percentile per-packet one-way delay: 67.726 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 268.97 Mbit/s
95th percentile per-packet one-way delay: 80.257 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 203.49 Mbit/s
95th percentile per-packet one-way delay: 85.117 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 04:16:46
End at: 2019-02-12 04:17:16
Local clock offset: -0.12 ms
Remote clock offset: -0.767 ms

# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 934.80 Mbit/s
95th percentile per-packet one-way delay: 129.796 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 524.80 Mbit/s
95th percentile per-packet one-way delay: 133.882 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 468.91 Mbit/s
95th percentile per-packet one-way delay: 119.913 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 290.29 Mbit/s
95th percentile per-packet one-way delay: 65.995 ms
Loss rate: 0.01%
Run 1: Report of TCP Cubic — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 525.03 Mbps)  
Flow 1 egress (mean 524.80 Mbps)
Flow 2 ingress (mean 489.66 Mbps)  
Flow 2 egress (mean 488.91 Mbps)
Flow 3 ingress (mean 280.30 Mbps)  
Flow 3 egress (mean 280.29 Mbps)

End-to-end delay (ms)

Flow 1 (95th percentile 133.88 ms)  
Flow 2 (95th percentile 119.91 ms)  
Flow 3 (95th percentile 66.00 ms)
Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 04:53:32
End at: 2019-02-12 04:54:02
Local clock offset: -0.056 ms
Remote clock offset: -0.898 ms

# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1016.82 Mbit/s
  95th percentile per-packet one-way delay: 103.990 ms
  Loss rate: 0.11%
  -- Flow 1:
  Average throughput: 524.10 Mbit/s
  95th percentile per-packet one-way delay: 95.460 ms
  Loss rate: 0.06%
  -- Flow 2:
  Average throughput: 496.71 Mbit/s
  95th percentile per-packet one-way delay: 86.742 ms
  Loss rate: 0.01%
  -- Flow 3:
  Average throughput: 487.01 Mbit/s
  95th percentile per-packet one-way delay: 118.848 ms
  Loss rate: 0.46%
Run 2: Report of TCP Cubic — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)
Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 05:30:39
End at: 2019-02-12 05:31:09
Local clock offset: -0.056 ms
Remote clock offset: -1.379 ms

# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.31 Mbit/s
95th percentile per-packet one-way delay: 79.272 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 510.58 Mbit/s
95th percentile per-packet one-way delay: 74.276 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 437.83 Mbit/s
95th percentile per-packet one-way delay: 77.242 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 400.72 Mbit/s
95th percentile per-packet one-way delay: 101.884 ms
Loss rate: 0.05%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 06:07:27
End at: 2019-02-12 06:07:57
Local clock offset: -0.061 ms
Remote clock offset: -0.387 ms

# Below is generated by plot.py at 2019-02-12 08:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 992.84 Mbit/s
95th percentile per-packet one-way delay: 114.134 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 510.11 Mbit/s
95th percentile per-packet one-way delay: 109.721 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 505.55 Mbit/s
95th percentile per-packet one-way delay: 107.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 439.69 Mbit/s
95th percentile per-packet one-way delay: 133.124 ms
Loss rate: 0.57%
Run 4: Report of TCP Cubic — Data Link
Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 06:44:26
End at: 2019-02-12 06:44:56
Local clock offset: -0.112 ms
Remote clock offset: -0.716 ms

# Below is generated by plot.py at 2019-02-12 08:15:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1034.79 Mbit/s
95th percentile per-packet one-way delay: 107.499 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 559.50 Mbit/s
95th percentile per-packet one-way delay: 105.735 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 484.41 Mbit/s
95th percentile per-packet one-way delay: 108.491 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 459.09 Mbit/s
95th percentile per-packet one-way delay: 118.722 ms
Loss rate: 0.23%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2019-02-12 04:11:52
End at: 2019-02-12 04:12:22
Local clock offset: -0.14 ms
Remote clock offset: -0.805 ms

# Below is generated by plot.py at 2019-02-12 08:16:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 869.54 Mbit/s
95th percentile per-packet one-way delay: 85.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 567.55 Mbit/s
95th percentile per-packet one-way delay: 90.289 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 335.80 Mbit/s
95th percentile per-packet one-way delay: 66.751 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 232.67 Mbit/s
95th percentile per-packet one-way delay: 66.030 ms
Loss rate: 0.00%
Run 1: Report of FillP — Data Link

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

- **Flow 1** ingress (mean 567.40 Mbps)
- **Flow 1** egress (mean 567.55 Mbps)
- **Flow 2** ingress (mean 335.81 Mbps)
- **Flow 2** egress (mean 335.80 Mbps)
- **Flow 3** ingress (mean 232.71 Mbps)
- **Flow 3** egress (mean 232.67 Mbps)

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

- **Flow 1** (95th percentile 90.29 ms)
- **Flow 2** (95th percentile 66.75 ms)
- **Flow 3** (95th percentile 66.03 ms)

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Run 2: Statistics of FillP

Start at: 2019-02-12 04:48:23
End at: 2019-02-12 04:48:53
Local clock offset: -0.069 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-02-12 08:31:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.05 Mbit/s
95th percentile per-packet one-way delay: 71.318 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 550.67 Mbit/s
95th percentile per-packet one-way delay: 73.875 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 322.65 Mbit/s
95th percentile per-packet one-way delay: 68.550 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 242.40 Mbit/s
95th percentile per-packet one-way delay: 66.409 ms
Loss rate: 0.00%
Run 2: Report of FillP — Data Link

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

- Blue dotted line: Flow 1 Ingress (mean 352.20 Mbit/s), Flow 1 Egress (mean 550.67 Mbit/s)
- Green dashed line: Flow 2 Ingress (mean 322.65 Mbit/s), Flow 2 Egress (mean 322.65 Mbit/s)

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

- Blue line with markers: Flow 1 (95th percentile 73.88 ms)
- Green line with markers: Flow 2 (95th percentile 68.55 ms)
- Red line with markers: Flow 3 (95th percentile 66.41 ms)
Run 3: Statistics of FillP

Start at: 2019-02-12 05:25:46
End at: 2019-02-12 05:26:16
Local clock offset: -0.086 ms
Remote clock offset: -0.674 ms

# Below is generated by plot.py at 2019-02-12 08:35:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 898.47 Mbit/s
  95th percentile per-packet one-way delay: 83.787 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 571.69 Mbit/s
  95th percentile per-packet one-way delay: 86.728 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 365.14 Mbit/s
  95th percentile per-packet one-way delay: 68.496 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 252.34 Mbit/s
  95th percentile per-packet one-way delay: 66.536 ms
  Loss rate: 0.00%
Run 3: Report of FillP — Data Link

Throughput (Mbps):

- Flow 1 Ingress (mean 571.72 Mbps)
- Flow 1 Egress (mean 571.09 Mbps)
- Flow 2 Ingress (mean 365.21 Mbps)
- Flow 2 Egress (mean 365.14 Mbps)
- Flow 3 Ingress (mean 252.35 Mbps)
- Flow 3 Egress (mean 252.34 Mbps)

Per-packet one-way delay (ms):

- Flow 1 (95th percentile 86.73 ms)
- Flow 2 (95th percentile 68.50 ms)
- Flow 3 (95th percentile 68.54 ms)
Run 4: Statistics of FillP

Start at: 2019-02-12 06:02:28
End at: 2019-02-12 06:02:58
Local clock offset: -0.04 ms
Remote clock offset: -0.221 ms

# Below is generated by plot.py at 2019-02-12 08:36:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 918.13 Mbit/s
95th percentile per-packet one-way delay: 70.197 ms
Loss rate: 0.02%

-- Flow 1:
Average throughput: 606.13 Mbit/s
95th percentile per-packet one-way delay: 70.936 ms
Loss rate: 0.02%

-- Flow 2:
Average throughput: 318.83 Mbit/s
95th percentile per-packet one-way delay: 66.773 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 301.47 Mbit/s
95th percentile per-packet one-way delay: 70.795 ms
Loss rate: 0.00%
Run 4: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 606.26 Mbps) / Egress (mean 606.13 Mbps)
- Flow 2 Ingress (mean 318.91 Mbps) / Egress (mean 318.83 Mbps)
- Flow 3 Ingress (mean 301.71 Mbps) / Egress (mean 301.47 Mbps)
Run 5: Statistics of FillP

Start at: 2019-02-12 06:39:32
End at: 2019-02-12 06:40:02
Local clock offset: -0.152 ms
Remote clock offset: 0.19 ms

# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 944.27 Mbit/s
95th percentile per-packet one-way delay: 90.786 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 584.10 Mbit/s
95th percentile per-packet one-way delay: 95.723 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 399.51 Mbit/s
95th percentile per-packet one-way delay: 69.896 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 284.60 Mbit/s
95th percentile per-packet one-way delay: 68.477 ms
Loss rate: 0.00%
Run 5: Report of FillP — Data Link

![Throughput Graph](image1)

- **Flow 1 Ingress (mean 584.39 Mbit/s)**
- **Flow 1 Egress (mean 584.10 Mbit/s)**
- **Flow 2 Ingress (mean 399.57 Mbit/s)**
- **Flow 2 Egress (mean 399.31 Mbit/s)**
- **Flow 3 Ingress (mean 284.59 Mbit/s)**
- **Flow 3 Egress (mean 284.60 Mbit/s)**

![Delay Graph](image2)

- **Flow 1 (95th percentile 95.72 ms)**
- **Flow 2 (95th percentile 69.90 ms)**
- **Flow 3 (95th percentile 68.48 ms)**
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 04:32:05
End at: 2019-02-12 04:32:35
Local clock offset: -0.09 ms
Remote clock offset: -0.95 ms

# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.68 Mbit/s
95th percentile per-packet one-way delay: 65.536 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 538.72 Mbit/s
95th percentile per-packet one-way delay: 65.927 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 343.79 Mbit/s
95th percentile per-packet one-way delay: 63.350 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 268.14 Mbit/s
95th percentile per-packet one-way delay: 67.239 ms
Loss rate: 0.00%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 05:09:15
End at: 2019-02-12 05:09:45
Local clock offset: -0.086 ms
Remote clock offset: -0.815 ms

# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 839.92 Mbit/s
95th percentile per-packet one-way delay: 68.847 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 538.95 Mbit/s
95th percentile per-packet one-way delay: 71.135 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 333.56 Mbit/s
95th percentile per-packet one-way delay: 67.484 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 239.17 Mbit/s
95th percentile per-packet one-way delay: 65.875 ms
Loss rate: 0.00%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 05:46:08
End at: 2019-02-12 05:46:38
Local clock offset: 0.042 ms
Remote clock offset: -0.858 ms

# Below is generated by plot.py at 2019-02-12 08:39:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 850.08 Mbit/s
  95th percentile per-packet one-way delay: 71.632 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 547.74 Mbit/s
  95th percentile per-packet one-way delay: 74.595 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 332.65 Mbit/s
  95th percentile per-packet one-way delay: 64.002 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 245.08 Mbit/s
  95th percentile per-packet one-way delay: 65.047 ms
  Loss rate: 0.00%
Run 3: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 547.75 Mbps/s)
- Flow 1 egress (mean 547.74 Mbps/s)
- Flow 2 ingress (mean 332.65 Mbps/s)
- Flow 2 egress (mean 332.65 Mbps/s)
- Flow 3 ingress (mean 245.09 Mbps/s)
- Flow 3 egress (mean 245.08 Mbps/s)

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

- Flow 1 (95th percentile 74.59 ms)
- Flow 2 (95th percentile 64.00 ms)
- Flow 3 (95th percentile 65.05 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-12 06:23:08
End at: 2019-02-12 06:23:38
Local clock offset: ~0.165 ms
Remote clock offset: ~0.306 ms

# Below is generated by plot.py at 2019-02-12 08:40:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 866.12 Mbit/s
95th percentile per-packet one-way delay: 66.927 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 559.03 Mbit/s
95th percentile per-packet one-way delay: 67.306 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 338.10 Mbit/s
95th percentile per-packet one-way delay: 66.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 246.55 Mbit/s
95th percentile per-packet one-way delay: 65.901 ms
Loss rate: 0.00%
Run 4: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 559.02 Mbps)
- Flow 1 egress (mean 559.03 Mbps)
- Flow 2 ingress (mean 338.11 Mbps)
- Flow 2 egress (mean 338.10 Mbps)
- Flow 3 ingress (mean 246.57 Mbps)
- Flow 3 egress (mean 246.55 Mbps)

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

- Flow 1 (95th percentile 67.31 ms)
- Flow 2 (95th percentile 66.86 ms)
- Flow 3 (95th percentile 65.90 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 06:59:57
End at: 2019-02-12 07:00:27
Local clock offset: -0.112 ms
Remote clock offset: -0.454 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.81 Mbit/s
95th percentile per-packet one-way delay: 70.273 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 535.03 Mbit/s
95th percentile per-packet one-way delay: 72.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 332.52 Mbit/s
95th percentile per-packet one-way delay: 66.772 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.37 Mbit/s
95th percentile per-packet one-way delay: 66.412 ms
Loss rate: 0.00%
Run 5: Report of FillP-Sheep — Data Link

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

- **Flow 1 Ingress (mean 535.02 Mbps)**
- **Flow 1 Egress (mean 535.03 Mbps)**
- **Flow 2 Ingress (mean 332.52 Mbps)**
- **Flow 2 Egress (mean 332.52 Mbps)**
- **Flow 3 Ingress (mean 258.36 Mbps)**
- **Flow 3 Egress (mean 258.37 Mbps)**

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

- **Flow 1 (95th percentile 72.55 ms)**
- **Flow 2 (95th percentile 66.77 ms)**
- **Flow 3 (95th percentile 66.41 ms)**
Run 1: Statistics of Indigo

Start at: 2019-02-12 04:10:02
End at: 2019-02-12 04:10:32
Local clock offset: -0.098 ms
Remote clock offset: -1.394 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.52 Mbit/s
95th percentile per-packet one-way delay: 62.688 ms
Loss rate: 0.01%

-- Flow 1:
Average throughput: 204.10 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 191.70 Mbit/s
95th percentile per-packet one-way delay: 62.887 ms
Loss rate: 0.01%

-- Flow 3:
Average throughput: 162.68 Mbit/s
95th percentile per-packet one-way delay: 63.534 ms
Loss rate: 0.02%
Run 1: Report of Indigo — Data Link

- Flow 1 ingress (mean 204.10 Mbit/s)
- Flow 1 egress (mean 204.10 Mbit/s)
- Flow 2 ingress (mean 191.72 Mbit/s)
- Flow 2 egress (mean 191.70 Mbit/s)
- Flow 3 ingress (mean 162.72 Mbit/s)
- Flow 3 egress (mean 162.68 Mbit/s)

- Flow 1 (95th percentile 62.27 ms)
- Flow 2 (95th percentile 62.89 ms)
- Flow 3 (95th percentile 63.53 ms)
Run 2: Statistics of Indigo

Start at: 2019-02-12 04:46:31
End at: 2019-02-12 04:47:01
Local clock offset: -0.063 ms
Remote clock offset: -1.002 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
  -- Total of 3 flows:
  Average throughput: 390.25 Mbit/s
  95th percentile per-packet one-way delay: 63.768 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 212.10 Mbit/s
  95th percentile per-packet one-way delay: 63.745 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 191.97 Mbit/s
  95th percentile per-packet one-way delay: 63.641 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 157.68 Mbit/s
  95th percentile per-packet one-way delay: 64.194 ms
  Loss rate: 0.00%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2019-02-12 05:23:55
End at: 2019-02-12 05:24:25
Local clock offset: −0.097 ms
Remote clock offset: −1.353 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.73 Mbit/s
95th percentile per-packet one-way delay: 64.262 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 211.49 Mbit/s
95th percentile per-packet one-way delay: 63.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.50 Mbit/s
95th percentile per-packet one-way delay: 64.819 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 183.91 Mbit/s
95th percentile per-packet one-way delay: 66.117 ms
Loss rate: 0.26%
Run 3: Report of Indigo — Data Link
Run 4: Statistics of Indigo

Start at: 2019-02-12 06:00:39
End at: 2019-02-12 06:01:09
Local clock offset: -0.018 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 389.38 Mbit/s
  95th percentile per-packet one-way delay: 65.176 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 204.74 Mbit/s
  95th percentile per-packet one-way delay: 64.823 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 185.84 Mbit/s
  95th percentile per-packet one-way delay: 64.858 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 189.55 Mbit/s
  95th percentile per-packet one-way delay: 66.304 ms
  Loss rate: 0.00%
Run 4: Report of Indigo — Data Link

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

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Run 5: Statistics of Indigo

Start at: 2019-02-12 06:37:41
End at: 2019-02-12 06:38:11
Local clock offset: -0.156 ms
Remote clock offset: -0.872 ms

# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 397.19 Mbit/s
 95th percentile per-packet one-way delay: 64.708 ms
 Loss rate: 0.00%
-- Flow 1:
 Average throughput: 212.66 Mbit/s
 95th percentile per-packet one-way delay: 64.492 ms
 Loss rate: 0.00%
-- Flow 2:
 Average throughput: 191.74 Mbit/s
 95th percentile per-packet one-way delay: 64.902 ms
 Loss rate: 0.00%
-- Flow 3:
 Average throughput: 178.51 Mbit/s
 95th percentile per-packet one-way delay: 64.921 ms
 Loss rate: 0.00%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:13:41
End at: 2019-02-12 04:14:11
Local clock offset: -0.111 ms
Remote clock offset: -0.802 ms

# Below is generated by plot.py at 2019-02-12 08:58:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.34 Mbit/s
95th percentile per-packet one-way delay: 66.707 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 472.32 Mbit/s
95th percentile per-packet one-way delay: 66.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 396.45 Mbit/s
95th percentile per-packet one-way delay: 67.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 276.73 Mbit/s
95th percentile per-packet one-way delay: 64.642 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesC3 — Data Link
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:50:11
End at: 2019-02-12 04:50:41
Local clock offset: -0.037 ms
Remote clock offset: -1.517 ms

# Below is generated by plot.py at 2019-02-12 09:00:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 848.42 Mbit/s
95th percentile per-packet one-way delay: 70.583 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 499.49 Mbit/s
95th percentile per-packet one-way delay: 75.153 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 414.89 Mbit/s
95th percentile per-packet one-way delay: 67.698 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.08 Mbit/s
95th percentile per-packet one-way delay: 65.267 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC3 — Data Link

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

Flow 1 ingress (mean 499.49 Mbit/s)  
Flow 1 egress (mean 499.49 Mbit/s)  
Flow 2 ingress (mean 414.89 Mbit/s)  
Flow 2 egress (mean 414.89 Mbit/s)  
Flow 3 ingress (mean 299.07 Mbit/s)  
Flow 3 egress (mean 299.08 Mbit/s)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 05:27:38
End at: 2019-02-12 05:28:08
Local clock offset: -0.086 ms
Remote clock offset: -0.716 ms

# Below is generated by plot.py at 2019-02-12 09:07:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.46 Mbit/s
95th percentile per-packet one-way delay: 69.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 460.72 Mbit/s
95th percentile per-packet one-way delay: 69.573 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 349.18 Mbit/s
95th percentile per-packet one-way delay: 69.300 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.80 Mbit/s
95th percentile per-packet one-way delay: 66.211 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesC3 — Data Link

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

- **Flow 1 Ingress (mean 460.72 Mbit/s)**
- **Flow 1 Egress (mean 460.72 Mbit/s)**
- **Flow 2 Ingress (mean 349.18 Mbit/s)**
- **Flow 2 Egress (mean 349.18 Mbit/s)**
- **Flow 3 Ingress (mean 265.81 Mbit/s)**
- **Flow 3 Egress (mean 265.90 Mbit/s)**

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

- **Flow 1 (95th percentile 69.57 ms)**
- **Flow 2 (95th percentile 69.30 ms)**
- **Flow 3 (95th percentile 66.21 ms)**
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:04:20
End at: 2019-02-12 06:04:50
Local clock offset: ~0.07 ms
Remote clock offset: ~0.218 ms

# Below is generated by plot.py at 2019-02-12 09:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 833.95 Mbit/s
95th percentile per-packet one-way delay: 71.444 ms
Loss rate: 0.02%
 -- Flow 1:
Average throughput: 501.24 Mbit/s
95th percentile per-packet one-way delay: 71.879 ms
Loss rate: 0.03%
 -- Flow 2:
Average throughput: 398.37 Mbit/s
95th percentile per-packet one-way delay: 73.089 ms
Loss rate: 0.01%
 -- Flow 3:
Average throughput: 308.45 Mbit/s
95th percentile per-packet one-way delay: 66.626 ms
Loss rate: 0.04%
Run 4: Report of Indigo-MusesC3 — Data Link
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:41:25
End at: 2019-02-12 06:41:55
Local clock offset: -0.145 ms
Remote clock offset: -1.48 ms

# Below is generated by plot.py at 2019-02-12 09:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.28 Mbit/s
95th percentile per-packet one-way delay: 67.528 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 451.76 Mbit/s
95th percentile per-packet one-way delay: 70.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 368.43 Mbit/s
95th percentile per-packet one-way delay: 64.002 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 216.92 Mbit/s
95th percentile per-packet one-way delay: 64.107 ms
Loss rate: 0.03%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:30:11
End at: 2019-02-12 04:30:41
Local clock offset: -0.077 ms
Remote clock offset: -0.842 ms

# Below is generated by plot.py at 2019-02-12 09:14:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 851.03 Mbit/s
95th percentile per-packet one-way delay: 78.656 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 521.31 Mbit/s
95th percentile per-packet one-way delay: 81.504 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 460.70 Mbit/s
95th percentile per-packet one-way delay: 71.981 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 110.00 Mbit/s
95th percentile per-packet one-way delay: 62.860 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesC5 — Data Link

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**Throughput (Mbps):**

- Flow 1 ingress (mean 521.35 Mbps)
- Flow 1 egress (mean 521.31 Mbps)
- Flow 2 ingress (mean 462.20 Mbps)
- Flow 2 egress (mean 460.70 Mbps)
- Flow 3 ingress (mean 109.94 Mbps)
- Flow 3 egress (mean 110.00 Mbps)

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

- Flow 1 (95th percentile 81.50 ms)
- Flow 2 (95th percentile 71.98 ms)
- Flow 3 (95th percentile 62.86 ms)
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:07:22
End at: 2019-02-12 05:07:52
Local clock offset: -0.042 ms
Remote clock offset: -0.668 ms

# Below is generated by plot.py at 2019-02-12 09:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.88 Mbit/s
95th percentile per-packet one-way delay: 92.626 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 503.27 Mbit/s
95th percentile per-packet one-way delay: 98.261 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 370.70 Mbit/s
95th percentile per-packet one-way delay: 76.927 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 100.98 Mbit/s
95th percentile per-packet one-way delay: 62.902 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:44:14
End at: 2019-02-12 05:44:44
Local clock offset: 0.015 ms
Remote clock offset: -0.748 ms

# Below is generated by plot.py at 2019-02-12 09:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 858.20 Mbit/s
95th percentile per-packet one-way delay: 85.824 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 533.33 Mbit/s
95th percentile per-packet one-way delay: 86.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 462.14 Mbit/s
95th percentile per-packet one-way delay: 85.392 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.83 Mbit/s
95th percentile per-packet one-way delay: 62.939 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesC5 — Data Link

[Graph showing throughput over time for different flows]

[Graph showing per-packet one-way delay over time for different flows]
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:21:16
End at: 2019-02-12 06:21:46
Local clock offset: -0.109 ms
Remote clock offset: -0.884 ms

# Below is generated by plot.py at 2019-02-12 09:17:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 827.04 Mbit/s
  95th percentile per-packet one-way delay: 105.259 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 519.92 Mbit/s
  95th percentile per-packet one-way delay: 117.477 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 445.27 Mbit/s
  95th percentile per-packet one-way delay: 77.628 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 95.65 Mbit/s
  95th percentile per-packet one-way delay: 62.583 ms
  Loss rate: 0.00%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph 1: Throughput vs. Time (Mbit/s)]
- **Flow 1 ingress (mean 520.02 Mbit/s)**
- **Flow 1 egress (mean 519.92 Mbit/s)**
- **Flow 2 ingress (mean 445.31 Mbit/s)**
- **Flow 2 egress (mean 445.27 Mbit/s)**
- **Flow 3 ingress (mean 95.64 Mbit/s)**
- **Flow 3 egress (mean 95.63 Mbit/s)**

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

- **Flow 1 (95th percentile 117.48 ms)**
- **Flow 2 (95th percentile 77.63 ms)**
- **Flow 3 (95th percentile 62.58 ms)**
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:58:04
End at: 2019-02-12 06:58:34
Local clock offset: -0.103 ms
Remote clock offset: -1.458 ms

# Below is generated by plot.py at 2019-02-12 09:19:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 823.94 Mbit/s
  95th percentile per-packet one-way delay: 92.350 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 518.45 Mbit/s
  95th percentile per-packet one-way delay: 96.186 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 425.00 Mbit/s
  95th percentile per-packet one-way delay: 75.257 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 104.77 Mbit/s
  95th percentile per-packet one-way delay: 62.203 ms
  Loss rate: 0.00%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:20:01
End at: 2019-02-12 04:20:31
Local clock offset: -0.095 ms
Remote clock offset: 0.38 ms

# Below is generated by plot.py at 2019-02-12 09:26:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 780.08 Mbit/s
  95th percentile per-packet one-way delay: 85.463 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 476.43 Mbit/s
  95th percentile per-packet one-way delay: 87.412 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 336.48 Mbit/s
  95th percentile per-packet one-way delay: 78.258 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 323.01 Mbit/s
  95th percentile per-packet one-way delay: 67.111 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-MusesD — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 476.43 Mbit/s)
Flow 1 egress (mean 476.43 Mbit/s)
Flow 2 ingress (mean 336.48 Mbit/s)
Flow 2 egress (mean 336.48 Mbit/s)
Flow 3 ingress (mean 323.00 Mbit/s)
Flow 3 egress (mean 323.01 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 87.41 ms)
Flow 2 (95th percentile 78.26 ms)
Flow 3 (95th percentile 67.11 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:56:55
End at: 2019-02-12 04:57:25
Local clock offset: -0.072 ms
Remote clock offset: -0.904 ms

# Below is generated by plot.py at 2019-02-12 09:29:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 795.95 Mbit/s
95th percentile per-packet one-way delay: 82.788 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 441.20 Mbit/s
95th percentile per-packet one-way delay: 88.422 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 428.75 Mbit/s
95th percentile per-packet one-way delay: 73.381 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.85 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 0.08%
Run 2: Report of Indigo-MusesD — Data Link

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

Legend:
- Flow 1 ingress (mean 441.20 Mbit/s)
- Flow 1 egress (mean 441.20 Mbit/s)
- Flow 2 ingress (mean 428.58 Mbit/s)
- Flow 2 egress (mean 428.75 Mbit/s)
- Flow 3 ingress (mean 300.14 Mbit/s)
- Flow 3 egress (mean 299.05 Mbit/s)

Legend:
- Flow 1 (95th percentile 88.42 ms)
- Flow 2 (95th percentile 73.38 ms)
- Flow 3 (95th percentile 64.21 ms)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:33:57
End at: 2019-02-12 05:34:27
Local clock offset: -0.023 ms
Remote clock offset: -0.702 ms

# Below is generated by plot.py at 2019-02-12 09:30:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.62 Mbit/s
95th percentile per-packet one-way delay: 74.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 461.71 Mbit/s
95th percentile per-packet one-way delay: 81.630 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.19 Mbit/s
95th percentile per-packet one-way delay: 66.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 261.03 Mbit/s
95th percentile per-packet one-way delay: 64.621 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesD — Data Link
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:10:46
End at: 2019-02-12 06:11:16
Local clock offset: -0.096 ms
Remote clock offset: -1.345 ms

# Below is generated by plot.py at 2019-02-12 09:31:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 760.57 Mbit/s
95th percentile per-packet one-way delay: 90.764 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 407.28 Mbit/s
95th percentile per-packet one-way delay: 90.209 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 427.51 Mbit/s
95th percentile per-packet one-way delay: 93.194 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 300.21 Mbit/s
95th percentile per-packet one-way delay: 66.535 ms
Loss rate: 0.04%
Run 4: Report of Indigo-MusesD — Data Link

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

Legend:
- **Flow 1 ingress** (mean 407.28 Mbit/s)
- **Flow 1 egress** (mean 407.28 Mbit/s)
- **Flow 2 ingress** (mean 427.57 Mbit/s)
- **Flow 2 egress** (mean 427.51 Mbit/s)
- **Flow 3 ingress** (mean 300.31 Mbit/s)
- **Flow 3 egress** (mean 300.21 Mbit/s)

Legend for packet delay:
- Flow 1 (95th percentile 90.21 ms)
- Flow 2 (95th percentile 93.19 ms)
- Flow 3 (95th percentile 66.53 ms)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:47:46
End at: 2019-02-12 06:48:16
Local clock offset: -0.103 ms
Remote clock offset: -1.561 ms

# Below is generated by plot.py at 2019-02-12 09:31:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 658.87 Mbit/s
95th percentile per-packet one-way delay: 83.163 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 398.02 Mbit/s
95th percentile per-packet one-way delay: 84.641 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 283.94 Mbit/s
95th percentile per-packet one-way delay: 70.106 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.06 Mbit/s
95th percentile per-packet one-way delay: 64.747 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesD — Data Link
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:08:34
End at: 2019-02-12 04:09:04
Local clock offset: -0.106 ms
Remote clock offset: -0.361 ms
Run 1: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 300.69 Mbit/s)
- Flow 1 egress (mean 300.43 Mbit/s)
- Flow 2 ingress (mean 300.87 Mbit/s)
- Flow 2 egress (mean 300.88 Mbit/s)
- Flow 3 ingress (mean 342.62 Mbit/s)
- Flow 3 egress (mean 342.61 Mbit/s)
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:44:35
End at: 2019-02-12 04:45:05
Local clock offset: -0.044 ms
Remote clock offset: -0.715 ms

# Below is generated by plot.py at 2019-02-12 09:37:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 897.37 Mbit/s
  95th percentile per-packet one-way delay: 110.842 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 557.80 Mbit/s
  95th percentile per-packet one-way delay: 112.857 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 428.10 Mbit/s
  95th percentile per-packet one-way delay: 110.846 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 265.22 Mbit/s
  95th percentile per-packet one-way delay: 66.425 ms
  Loss rate: 0.00%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:21:57
End at: 2019-02-12 05:22:27
Local clock offset: -0.065 ms
Remote clock offset: -0.778 ms

# Below is generated by plot.py at 2019-02-12 09:41:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.30 Mbit/s
95th percentile per-packet one-way delay: 109.520 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 566.74 Mbit/s
95th percentile per-packet one-way delay: 114.448 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 432.62 Mbit/s
95th percentile per-packet one-way delay: 82.751 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 332.64 Mbit/s
95th percentile per-packet one-way delay: 68.349 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 566.84 Mbps)
- Flow 1 egress (mean 566.74 Mbps)
- Flow 2 ingress (mean 432.67 Mbps)
- Flow 2 egress (mean 432.62 Mbps)
- Flow 3 ingress (mean 332.84 Mbps)
- Flow 3 egress (mean 332.64 Mbps)

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

- Flow 1 (95th percentile 114.45 ms)
- Flow 2 (95th percentile 82.75 ms)
- Flow 3 (95th percentile 66.35 ms)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:58:42
End at: 2019-02-12 05:59:12
Local clock offset: 0.03 ms
Remote clock offset: -0.161 ms

# Below is generated by plot.py at 2019-02-12 09:43:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 904.82 Mbit/s
95th percentile per-packet one-way delay: 109.718 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 546.21 Mbit/s
95th percentile per-packet one-way delay: 114.837 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 433.81 Mbit/s
95th percentile per-packet one-way delay: 79.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 321.51 Mbit/s
95th percentile per-packet one-way delay: 69.184 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesT — Data Link

![Graph 1: Throughput Graph](image)

- Flow 1 ingress (mean 546.23 Mbit/s)
- Flow 1 egress (mean 546.21 Mbit/s)
- Flow 2 ingress (mean 433.82 Mbit/s)
- Flow 2 egress (mean 433.81 Mbit/s)
- Flow 3 ingress (mean 321.52 Mbit/s)
- Flow 3 egress (mean 321.51 Mbit/s)

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

- Flow 1 (95th percentile 114.84 ms)
- Flow 2 (95th percentile 79.15 ms)
- Flow 3 (95th percentile 69.18 ms)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 06:35:46
End at: 2019-02-12 06:36:16
Local clock offset: -0.158 ms
Remote clock offset: -0.265 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 846.32 Mbit/s
95th percentile per-packet one-way delay: 98.682 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 506.26 Mbit/s
95th percentile per-packet one-way delay: 106.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 406.21 Mbit/s
95th percentile per-packet one-way delay: 66.537 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 294.67 Mbit/s
95th percentile per-packet one-way delay: 65.575 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesT — Data Link

![Graph of Throughput and Latency](image)

**Throughput (Mbps):**
- Flow 1 ingress (mean 506.25 Mbps)
- Flow 1 egress (mean 506.26 Mbps)
- Flow 2 ingress (mean 406.21 Mbps)
- Flow 2 egress (mean 406.21 Mbps)
- Flow 3 ingress (mean 294.70 Mbps)
- Flow 3 egress (mean 294.67 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 106.13 ms)
- Flow 2 (95th percentile 66.54 ms)
- Flow 3 (95th percentile 65.58 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-02-12 04:26:54
End at: 2019-02-12 04:27:24
Local clock offset: -0.104 ms
Remote clock offset: -1.48 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 62.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.59 Mbit/s
95th percentile per-packet one-way delay: 62.298 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 62.367 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 23.27 Mbit/s)
- Flow 1 egress (mean 23.27 Mbit/s)
- Flow 2 ingress (mean 15.59 Mbit/s)
- Flow 2 egress (mean 15.59 Mbit/s)
- Flow 3 ingress (mean 7.70 Mbit/s)
- Flow 3 egress (mean 7.70 Mbit/s)
Run 2: Statistics of LEDBAT

Start at: 2019-02-12 05:04:03
End at: 2019-02-12 05:04:33
Local clock offset: ~0.071 ms
Remote clock offset: -1.385 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 62.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.47 Mbit/s
95th percentile per-packet one-way delay: 62.450 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.60 Mbit/s
95th percentile per-packet one-way delay: 62.419 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 62.615 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

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

- **Flow 1 ingress** (mean 23.47 Mbit/s)
- **Flow 1 egress** (mean 23.47 Mbit/s)
- **Flow 2 ingress** (mean 15.60 Mbit/s)
- **Flow 2 egress** (mean 15.60 Mbit/s)
- **Flow 3 ingress** (mean 7.71 Mbit/s)
- **Flow 3 egress** (mean 7.71 Mbit/s)
Run 3: Statistics of LEDBAT

Start at: 2019-02-12 05:40:52
End at: 2019-02-12 05:41:22
Local clock offset: -0.022 ms
Remote clock offset: -0.567 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 63.405 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.44 Mbit/s
95th percentile per-packet one-way delay: 63.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 63.256 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 62.929 ms
Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link

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

![Graph 2: Per-packet end-to-end delay vs Time](image2)
Run 4: Statistics of LEDBAT

Start at: 2019-02-12 06:17:54
End at: 2019-02-12 06:18:24
Local clock offset: -0.129 ms
Remote clock offset: -0.733 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 63.214 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 63.357 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 15.61 Mbit/s
95th percentile per-packet one-way delay: 62.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 62.908 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

![Graph 1: Throughput vs Time]

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

Legend:
- Flow 1 ingress (mean 23.35 Mbit/s)
- Flow 1 egress (mean 23.33 Mbit/s)
- Flow 2 ingress (mean 15.61 Mbit/s)
- Flow 2 egress (mean 15.61 Mbit/s)
- Flow 3 ingress (mean 7.71 Mbit/s)
- Flow 3 egress (mean 7.71 Mbit/s)

Legend for Per-packet one way delay:
- Flow 1 (95th percentile 63.36 ms)
- Flow 2 (95th percentile 62.98 ms)
- Flow 3 (95th percentile 62.91 ms)
Run 5: Statistics of LEDBAT

Start at: 2019-02-12 06:54:44
End at: 2019-02-12 06:55:14
Local clock offset: -0.117 ms
Remote clock offset: -1.592 ms

# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.39 Mbit/s
95th percentile per-packet one-way delay: 63.010 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 63.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.65 Mbit/s
95th percentile per-packet one-way delay: 63.053 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 62.252 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

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

- **Flow 1 Ingress** (mean 23.43 Mbit/s)
- **Flow 1 Egress** (mean 23.43 Mbit/s)
- **Flow 2 Ingress** (mean 15.65 Mbit/s)
- **Flow 2 Egress** (mean 15.65 Mbit/s)
- **Flow 3 Ingress** (mean 7.73 Mbit/s)
- **Flow 3 Egress** (mean 7.73 Mbit/s)

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

- **Flow 1** (95th percentile 63.10 ms)
- **Flow 2** (95th percentile 63.05 ms)
- **Flow 3** (95th percentile 62.25 ms)
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 04:06:31
End at: 2019-02-12 04:07:01
Local clock offset: -0.111 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2019-02-12 10:04:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 712.70 Mbit/s
  95th percentile per-packet one-way delay: 202.843 ms
  Loss rate: 4.05%
-- Flow 1:
  Average throughput: 418.49 Mbit/s
  95th percentile per-packet one-way delay: 194.079 ms
  Loss rate: 5.55%
-- Flow 2:
  Average throughput: 326.02 Mbit/s
  95th percentile per-packet one-way delay: 215.186 ms
  Loss rate: 2.57%
-- Flow 3:
  Average throughput: 248.40 Mbit/s
  95th percentile per-packet one-way delay: 139.633 ms
  Loss rate: 0.03%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 04:42:33
End at: 2019-02-12 04:43:03
Local clock offset: -0.07 ms
Remote clock offset: -0.823 ms

# Below is generated by plot.py at 2019-02-12 10:05:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.92 Mbit/s
95th percentile per-packet one-way delay: 179.646 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 425.60 Mbit/s
95th percentile per-packet one-way delay: 185.734 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 317.58 Mbit/s
95th percentile per-packet one-way delay: 105.179 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 243.41 Mbit/s
95th percentile per-packet one-way delay: 178.040 ms
Loss rate: 1.41%
Run 2: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean: 435.26 Mb/s)
- Flow 1 egress (mean: 425.60 Mb/s)
- Flow 2 ingress (mean: 317.79 Mb/s)
- Flow 2 egress (mean: 317.58 Mb/s)
- Flow 3 ingress (mean: 246.86 Mb/s)
- Flow 3 egress (mean: 243.41 Mb/s)
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 05:19:55
End at: 2019-02-12 05:20:25
Local clock offset: -0.075 ms
Remote clock offset: -0.92 ms

# Below is generated by plot.py at 2019-02-12 10:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.93 Mbit/s
95th percentile per-packet one-way delay: 193.292 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 434.72 Mbit/s
95th percentile per-packet one-way delay: 200.439 ms
Loss rate: 5.39%
-- Flow 2:
Average throughput: 306.76 Mbit/s
95th percentile per-packet one-way delay: 131.285 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 244.42 Mbit/s
95th percentile per-packet one-way delay: 229.608 ms
Loss rate: 3.59%
Run 3: Report of PCC-Allegro — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 459.47 Mbps)
  - Flow 1 egress (mean 434.72 Mbps)
  - Flow 2 ingress (mean 397.01 Mbps)
  - Flow 2 egress (mean 306.76 Mbps)
  - Flow 3 ingress (mean 253.53 Mbps)
  - Flow 3 egress (mean 244.42 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 200.44 ms)
  - Flow 2 (95th percentile 131.28 ms)
  - Flow 3 (95th percentile 229.61 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 05:56:40
End at: 2019-02-12 05:57:10
Local clock offset: -0.018 ms
Remote clock offset: -0.747 ms

# Below is generated by plot.py at 2019-02-12 10:07:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 726.54 Mbit/s
95th percentile per-packet one-way delay: 195.676 ms
Loss rate: 5.95%
-- Flow 1:
Average throughput: 403.10 Mbit/s
95th percentile per-packet one-way delay: 193.349 ms
Loss rate: 7.50%
-- Flow 2:
Average throughput: 358.19 Mbit/s
95th percentile per-packet one-way delay: 201.122 ms
Loss rate: 5.03%
-- Flow 3:
Average throughput: 257.14 Mbit/s
95th percentile per-packet one-way delay: 129.045 ms
Loss rate: 0.72%
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 06:33:43
End at: 2019-02-12 06:34:13
Local clock offset: -0.144 ms
Remote clock offset: -0.689 ms

# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 742.69 Mbit/s
95th percentile per-packet one-way delay: 202.079 ms
Loss rate: 4.30%
-- Flow 1:
Average throughput: 373.06 Mbit/s
95th percentile per-packet one-way delay: 208.422 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 429.93 Mbit/s
95th percentile per-packet one-way delay: 194.420 ms
Loss rate: 7.02%
-- Flow 3:
Average throughput: 254.79 Mbit/s
95th percentile per-packet one-way delay: 101.103 ms
Loss rate: 0.08%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 04:23:35
End at: 2019-02-12 04:24:05
Local clock offset: -0.104 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 540.29 Mbit/s
95th percentile per-packet one-way delay: 125.389 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 329.71 Mbit/s
95th percentile per-packet one-way delay: 121.201 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 235.45 Mbit/s
95th percentile per-packet one-way delay: 142.182 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 160.81 Mbit/s
95th percentile per-packet one-way delay: 68.723 ms
Loss rate: 0.02%
Run 1: Report of PCC-Expr — Data Link
Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 05:00:46
End at: 2019-02-12 05:01:16
Local clock offset: -0.082 ms
Remote clock offset: -0.66 ms

# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 485.97 Mbit/s
95th percentile per-packet one-way delay: 129.513 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 272.56 Mbit/s
95th percentile per-packet one-way delay: 120.138 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 235.85 Mbit/s
95th percentile per-packet one-way delay: 158.572 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 172.11 Mbit/s
95th percentile per-packet one-way delay: 106.084 ms
Loss rate: 0.00%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 05:37:34
End at: 2019-02-12 05:38:04
Local clock offset: -0.023 ms
Remote clock offset: -0.696 ms

# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 496.75 Mbit/s
  95th percentile per-packet one-way delay: 171.926 ms
  Loss rate: 0.97%
-- Flow 1:
  Average throughput: 274.25 Mbit/s
  95th percentile per-packet one-way delay: 111.762 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 249.70 Mbit/s
  95th percentile per-packet one-way delay: 186.602 ms
  Loss rate: 2.07%
-- Flow 3:
  Average throughput: 171.48 Mbit/s
  95th percentile per-packet one-way delay: 137.393 ms
  Loss rate: 0.12%
Run 3: Report of PCC-Expr — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.](image-url)
Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 06:14:33
End at: 2019-02-12 06:15:03
Local clock offset: -0.102 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-02-12 10:27:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 504.61 Mbit/s
  95th percentile per-packet one-way delay: 179.862 ms
  Loss rate: 2.32%
-- Flow 1:
  Average throughput: 327.69 Mbit/s
  95th percentile per-packet one-way delay: 179.576 ms
  Loss rate: 2.73%
-- Flow 2:
  Average throughput: 248.00 Mbit/s
  95th percentile per-packet one-way delay: 184.304 ms
  Loss rate: 1.65%
-- Flow 3:
  Average throughput: 36.18 Mbit/s
  95th percentile per-packet one-way delay: 63.196 ms
  Loss rate: 0.02%
Run 4: Report of PCC-Expr — Data Link

Graph 1: Throughput (Mbps)

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

Legend:
- Flow 1 ingress (mean 336.89 Mbps)
- Flow 1 egress (mean 327.69 Mbps)
- Flow 2 ingress (mean 252.16 Mbps)
- Flow 2 egress (mean 248.00 Mbps)
- Flow 3 ingress (mean 36.19 Mbps)
- Flow 3 egress (mean 36.18 Mbps)
Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 06:51:24
End at: 2019-02-12 06:51:54
Local clock offset: -0.121 ms
Remote clock offset: -0.909 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 511.08 Mbit/s
95th percentile per-packet one-way delay: 165.367 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 273.80 Mbit/s
95th percentile per-packet one-way delay: 175.793 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 270.52 Mbit/s
95th percentile per-packet one-way delay: 108.419 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 174.07 Mbit/s
95th percentile per-packet one-way delay: 67.839 ms
Loss rate: 0.01%
Run 5: Report of PCC-Expr — Data Link

![Graphs showing network throughput and delay for different flows.]

**Throughput (Mbps)**
- Flow 1 Ingress (mean 277.90 Mbps)
- Flow 1 Egress (mean 273.80 Mbps)
- Flow 2 Ingress (mean 270.52 Mbps)
- Flow 2 Egress (mean 270.52 Mbps)
- Flow 3 Ingress (mean 174.22 Mbps)
- Flow 3 Egress (mean 174.07 Mbps)

**Delay (ms)**
- Flow 1 (95th percentile 175.79 ms)
- Flow 2 (95th percentile 108.42 ms)
- Flow 3 (95th percentile 67.84 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 04:25:38
End at: 2019-02-12 04:26:08
Local clock offset: -0.093 ms
Remote clock offset: -0.729 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.53 Mbit/s
95th percentile per-packet one-way delay: 62.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 62.334 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 62.340 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.32 Mbit/s
95th percentile per-packet one-way delay: 62.170 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress (mean 0.01 Mbps)**
- **Flow 1 egress (mean 0.01 Mbps)**
- **Flow 2 ingress (mean 55.11 Mbps)**
- **Flow 2 egress (mean 55.12 Mbps)**
- **Flow 3 ingress (mean 24.32 Mbps)**
- **Flow 3 egress (mean 24.32 Mbps)**

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

- **Flow 1 (95th percentile 62.33 ms)**
- **Flow 2 (95th percentile 62.34 ms)**
- **Flow 3 (95th percentile 62.17 ms)**
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 05:02:45
End at: 2019-02-12 05:03:15
Local clock offset: -0.13 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 63.069 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.56 Mbit/s
95th percentile per-packet one-way delay: 63.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 62.927 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 62.761 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

![Graph 1: Throughput Comparison](image)

![Graph 2: Packet Round-trip Time Distribution](image)
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 05:39:33
End at: 2019-02-12 05:40:03
Local clock offset: -0.016 ms
Remote clock offset: -1.285 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.67 Mbit/s
95th percentile per-packet one-way delay: 61.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.46 Mbit/s
95th percentile per-packet one-way delay: 61.601 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.44 Mbit/s
95th percentile per-packet one-way delay: 61.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.84 Mbit/s
95th percentile per-packet one-way delay: 62.103 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

![Chart 1: Throughput (Mbps)](chart1.png)

![Chart 2: Per-packet one-way delay (ms)](chart2.png)
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 06:16:35
End at: 2019-02-12 06:17:05
Local clock offset: -0.136 ms
Remote clock offset: -1.471 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.67 Mbit/s
95th percentile per-packet one-way delay: 61.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 61.606 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.06 Mbit/s
95th percentile per-packet one-way delay: 61.469 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.54 Mbit/s
95th percentile per-packet one-way delay: 61.542 ms
Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 42.84 Mbit/s)  Flow 1 egress (mean 42.84 Mbit/s)
Flow 2 ingress (mean 47.06 Mbit/s)  Flow 2 egress (mean 47.06 Mbit/s)
Flow 3 ingress (mean 41.55 Mbit/s)  Flow 3 egress (mean 41.54 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 61.61 ms)  Flow 2 (95th percentile 61.47 ms)  Flow 3 (95th percentile 61.54 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 06:53:25  
End at: 2019-02-12 06:53:55  
Local clock offset: -0.144 ms  
Remote clock offset: -0.161 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.52 Mbit/s
95th percentile per-packet one-way delay: 63.080 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.34 Mbit/s
95th percentile per-packet one-way delay: 63.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 63.133 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.91 Mbit/s
95th percentile per-packet one-way delay: 62.970 ms
Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link

![Throughput (Mb/s) vs Time (s) Graph]

- **Flow 1 ingress** (mean 55.34 Mb/s)
- **Flow 1 egress** (mean 55.34 Mb/s)
- **Flow 2 ingress** (mean 50.24 Mb/s)
- **Flow 2 egress** (mean 50.24 Mb/s)
- **Flow 3 ingress** (mean 49.91 Mb/s)
- **Flow 3 egress** (mean 49.91 Mb/s)

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

- **Flow 1** (95th percentile 63.04 ms)
- **Flow 2** (95th percentile 63.13 ms)
- **Flow 3** (95th percentile 62.97 ms)
Run 1: Statistics of SCReAM

Start at: 2019-02-12 04:15:33
End at: 2019-02-12 04:16:03
Local clock offset: -0.093 ms
Remote clock offset: -0.681 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.443 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.461 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.334 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.291 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

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

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

- **Per-packet one way delay (ms):**
  - Flow 1 (95th percentile 62.46 ms)
  - Flow 2 (95th percentile 62.33 ms)
  - Flow 3 (95th percentile 62.29 ms)
Run 2: Statistics of SCReAM

Start at: 2019-02-12 04:52:19
End at: 2019-02-12 04:52:49
Local clock offset: -0.043 ms
Remote clock offset: -0.368 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.731 ms
Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

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

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

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

- Flow 1 (95th percentile 62.98 ms)
- Flow 2 (95th percentile 62.87 ms)
- Flow 3 (95th percentile 62.73 ms)
Run 3: Statistics of SCReAM

Start at: 2019-02-12 05:29:27
End at: 2019-02-12 05:29:57
Local clock offset: 0.005 ms
Remote clock offset: -0.929 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 62.189 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.223 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.170 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 62.108 ms
  Loss rate: 0.00%
Run 4: Statistics of SCReAM

Start at: 2019-02-12 06:06:15
End at: 2019-02-12 06:06:45
Local clock offset: -0.068 ms
Remote clock offset: -1.491 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 61.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.626 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.608 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.604 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

![Graph showing network performance metrics for different flows over time, including throughput and round-trip delay.](image-url)
Run 5: Statistics of SCReAM

Start at: 2019-02-12 06:43:14
End at: 2019-02-12 06:43:44
Local clock offset: -0.124 ms
Remote clock offset: -0.706 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.814 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.831 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.912 ms
Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

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

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

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

- **Flow 1 (95th percentile 62.83 ms)**
- **Flow 2 (95th percentile 62.45 ms)**
- **Flow 3 (95th percentile 62.91 ms)**
Run 1: Statistics of Sprout

Start at: 2019-02-12 04:18:47
End at: 2019-02-12 04:19:17
Local clock offset: -0.1 ms
Remote clock offset: 0.367 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.18 Mbit/s
  95th percentile per-packet one-way delay: 64.138 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.71 Mbit/s
  95th percentile per-packet one-way delay: 64.151 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 6.70 Mbit/s
  95th percentile per-packet one-way delay: 64.138 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 5.81 Mbit/s
  95th percentile per-packet one-way delay: 64.068 ms
  Loss rate: 0.00%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-02-12 04:55:41
End at: 2019-02-12 04:56:11
Local clock offset: -0.083 ms
Remote clock offset: -0.735 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.33 Mbit/s
95th percentile per-packet one-way delay: 63.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 63.254 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 63.039 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 63.060 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 6.79 Mbps)
- **Flow 1 egress** (mean 6.79 Mbps)
- **Flow 2 ingress** (mean 6.72 Mbps)
- **Flow 2 egress** (mean 6.72 Mbps)
- **Flow 3 ingress** (mean 6.33 Mbps)
- **Flow 3 egress** (mean 6.33 Mbps)

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

- **Flow 1** (95th percentile 63.25 ms)
- **Flow 2** (95th percentile 63.04 ms)
- **Flow 3** (95th percentile 63.06 ms)
Run 3: Statistics of Sprout

Start at: 2019-02-12 05:32:44
End at: 2019-02-12 05:33:14
Local clock offset: 0.085 ms
Remote clock offset: -0.749 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.18 Mbit/s
  95th percentile per-packet one-way delay: 63.006 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.77 Mbit/s
  95th percentile per-packet one-way delay: 63.068 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 6.49 Mbit/s
  95th percentile per-packet one-way delay: 62.956 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 6.38 Mbit/s
  95th percentile per-packet one-way delay: 62.795 ms
  Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 6.77 Mbps)
- Flow 1 egress (mean 6.77 Mbps)
- Flow 2 ingress (mean 6.49 Mbps)
- Flow 2 egress (mean 6.49 Mbps)
- Flow 3 ingress (mean 6.38 Mbps)
- Flow 3 egress (mean 6.38 Mbps)

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

- Flow 1 (95th percentile 63.07 ms)
- Flow 2 (95th percentile 62.96 ms)
- Flow 3 (95th percentile 62.80 ms)
Run 4: Statistics of Sprout

Start at: 2019-02-12 06:09:32
End at: 2019-02-12 06:10:02
Local clock offset: -0.114 ms
Remote clock offset: -0.74 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.24 Mbit/s
95th percentile per-packet one-way delay: 62.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 63.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 62.788 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 62.729 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 6.75 Mbps)
- Flow 1 egress (mean 6.75 Mbps)
- Flow 2 ingress (mean 6.50 Mbps)
- Flow 2 egress (mean 6.50 Mbps)
- Flow 3 ingress (mean 6.54 Mbps)
- Flow 3 egress (mean 6.54 Mbps)

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

- Flow 1 (95th percentile 63.06 ms)
- Flow 2 (95th percentile 62.79 ms)
- Flow 3 (95th percentile 62.73 ms)
Run 5: Statistics of Sprout

Start at: 2019-02-12 06:46:32
End at: 2019-02-12 06:47:02
Local clock offset: -0.136 ms
Remote clock offset: -0.831 ms

# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 62.987 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 63.116 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 62.884 ms
Loss rate: 0.00%
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-12 04:33:54
End at: 2019-02-12 04:34:24
Local clock offset: -0.044 ms
Remote clock offset: 0.257 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 452.62 Mbit/s
  95th percentile per-packet one-way delay: 63.753 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 229.71 Mbit/s
  95th percentile per-packet one-way delay: 63.596 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 219.78 Mbit/s
  95th percentile per-packet one-way delay: 63.831 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 227.27 Mbit/s
  95th percentile per-packet one-way delay: 64.104 ms
  Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 229.70 Mbit/s)
Flow 1 egress (mean 229.71 Mbit/s)
Flow 2 ingress (mean 219.78 Mbit/s)
Flow 2 egress (mean 219.78 Mbit/s)
Flow 3 ingress (mean 227.21 Mbit/s)
Flow 3 egress (mean 227.27 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 63.60 ms)
Flow 2 (95th percentile 63.83 ms)
Flow 3 (95th percentile 64.10 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2019-02-12 05:11:03
End at: 2019-02-12 05:11:33
Local clock offset: -0.075 ms
Remote clock offset: -1.455 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.43 Mbit/s
95th percentile per-packet one-way delay: 61.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.16 Mbit/s
95th percentile per-packet one-way delay: 61.732 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.57 Mbit/s
95th percentile per-packet one-way delay: 62.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.67 Mbit/s
95th percentile per-packet one-way delay: 62.033 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 228.16 Mbit/s)
Flow 1 egress (mean 228.16 Mbit/s)
Flow 2 ingress (mean 212.57 Mbit/s)
Flow 2 egress (mean 212.57 Mbit/s)
Flow 3 ingress (mean 218.67 Mbit/s)
Flow 3 egress (mean 218.67 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 61.73 ms)
Flow 2 (95th percentile 62.01 ms)
Flow 3 (95th percentile 62.03 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-02-12 05:47:57
End at: 2019-02-12 05:48:27
Local clock offset: -0.022 ms
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 446.95 Mbit/s
95th percentile per-packet one-way delay: 63.059 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 230.37 Mbit/s
95th percentile per-packet one-way delay: 62.949 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 220.19 Mbit/s
95th percentile per-packet one-way delay: 62.995 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 210.67 Mbit/s
95th percentile per-packet one-way delay: 63.350 ms
Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2019-02-12 06:24:58
End at: 2019-02-12 06:25:28
Local clock offset: -0.194 ms
Remote clock offset: -1.383 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 446.39 Mbit/s
  95th percentile per-packet one-way delay: 64.469 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 228.61 Mbit/s
  95th percentile per-packet one-way delay: 63.463 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 225.88 Mbit/s
  95th percentile per-packet one-way delay: 64.814 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 202.13 Mbit/s
  95th percentile per-packet one-way delay: 67.613 ms
  Loss rate: 0.00%
Run 4: Report of TaoVA-100x — Data Link

![Graph showing throughput and round-trip delay over time for different flows.](image-url)
Run 5: Statistics of TaoVA-100x

Start at: 2019-02-12 07:01:45
End at: 2019-02-12 07:02:15
Local clock offset: -0.114 ms
Remote clock offset: -0.333 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 435.29 Mbit/s
  95th percentile per-packet one-way delay: 63.546 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 225.01 Mbit/s
  95th percentile per-packet one-way delay: 63.286 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 208.21 Mbit/s
  95th percentile per-packet one-way delay: 63.724 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 215.50 Mbit/s
  95th percentile per-packet one-way delay: 64.050 ms
  Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 04:21:52
End at: 2019-02-12 04:22:22
Local clock offset: -0.062 ms
Remote clock offset: -0.825 ms

# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 566.16 Mbit/s
  95th percentile per-packet one-way delay: 65.211 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 224.70 Mbit/s
  95th percentile per-packet one-way delay: 62.706 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 335.48 Mbit/s
  95th percentile per-packet one-way delay: 71.111 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 355.17 Mbit/s
  95th percentile per-packet one-way delay: 63.863 ms
  Loss rate: 0.01%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 04:58:47
End at: 2019-02-12 04:59:17
Local clock offset: -0.071 ms
Remote clock offset: -0.758 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 900.58 Mbit/s
  95th percentile per-packet one-way delay: 94.887 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 446.98 Mbit/s
  95th percentile per-packet one-way delay: 66.457 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 483.52 Mbit/s
  95th percentile per-packet one-way delay: 130.634 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 396.11 Mbit/s
  95th percentile per-packet one-way delay: 70.206 ms
  Loss rate: 0.05%
Run 2: Report of TCP Vegas — Data Link

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

Legend:
- Flow 1 ingress (mean 446.97 Mbit/s)
- Flow 1 egress (mean 446.98 Mbit/s)
- Flow 2 ingress (mean 483.71 Mbit/s)
- Flow 2 egress (mean 483.52 Mbit/s)
- Flow 3 ingress (mean 396.32 Mbit/s)
- Flow 3 egress (mean 396.11 Mbit/s)
Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 05:35:47
End at: 2019-02-12 05:36:17
Local clock offset: -0.028 ms
Remote clock offset: -0.592 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 657.64 Mbit/s
95th percentile per-packet one-way delay: 67.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 359.80 Mbit/s
95th percentile per-packet one-way delay: 64.611 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 240.83 Mbit/s
95th percentile per-packet one-way delay: 64.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 413.36 Mbit/s
95th percentile per-packet one-way delay: 75.486 ms
Loss rate: 0.00%
Run 3: Report of TCP Vegas — Data Link

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

- **Throughput (Mbps)**:
  - Flow 1 ingress (mean 359.80 Mbps)
  - Flow 1 egress (mean 359.80 Mbps)
  - Flow 2 ingress (mean 240.83 Mbps)
  - Flow 2 egress (mean 240.83 Mbps)
  - Flow 3 ingress (mean 413.35 Mbps)
  - Flow 3 egress (mean 413.35 Mbps)

- **Packet latency (ms)**:
  - Flow 1 (95th percentile 64.61 ms)
  - Flow 2 (95th percentile 64.44 ms)
  - Flow 3 (95th percentile 75.49 ms)
Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 06:12:35
End at: 2019-02-12 06:13:05
Local clock offset: -0.113 ms
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 858.35 Mbit/s
95th percentile per-packet one-way delay: 109.059 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 439.10 Mbit/s
95th percentile per-packet one-way delay: 69.681 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 437.21 Mbit/s
95th percentile per-packet one-way delay: 120.363 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 384.86 Mbit/s
95th percentile per-packet one-way delay: 159.807 ms
Loss rate: 0.06%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 06:49:31
End at: 2019-02-12 06:50:01
Local clock offset: -0.104 ms
Remote clock offset: -0.896 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 757.39 Mbit/s
95th percentile per-packet one-way delay: 95.236 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 339.97 Mbit/s
95th percentile per-packet one-way delay: 91.682 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 426.29 Mbit/s
95th percentile per-packet one-way delay: 74.147 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 402.04 Mbit/s
95th percentile per-packet one-way delay: 183.096 ms
Loss rate: 0.16%
Run 5: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 339.96 Mb/s)**
- **Flow 1 egress (mean 339.97 Mb/s)**
- **Flow 2 ingress (mean 426.30 Mb/s)**
- **Flow 2 egress (mean 426.29 Mb/s)**
- **Flow 3 ingress (mean 402.73 Mb/s)**
- **Flow 3 egress (mean 402.04 Mb/s)**

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

- **Flow 1 (95th percentile 91.66 ms)**
- **Flow 2 (95th percentile 74.15 ms)**
- **Flow 3 (95th percentile 183.10 ms)**

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Run 1: Statistics of Verus

Start at: 2019-02-12 04:35:49
End at: 2019-02-12 04:36:19
Local clock offset: -0.093 ms
Remote clock offset: -0.871 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.14 Mbit/s
95th percentile per-packet one-way delay: 162.969 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 128.92 Mbit/s
95th percentile per-packet one-way delay: 95.691 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 147.76 Mbit/s
95th percentile per-packet one-way delay: 212.445 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 112.40 Mbit/s
95th percentile per-packet one-way delay: 147.887 ms
Loss rate: 0.00%
Run 1: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 128.95 Mbps)
Flow 1 egress (mean 128.92 Mbps)
Flow 2 ingress (mean 151.82 Mbps)
Flow 2 egress (mean 147.76 Mbps)
Flow 3 ingress (mean 112.40 Mbps)
Flow 3 egress (mean 112.40 Mbps)

Round-trip one-way delay (ms)

Time (s)

Flow 1 (95th percentile 95.69 ms)
Flow 2 (95th percentile 212.44 ms)
Flow 3 (95th percentile 147.89 ms)
Run 2: Statistics of Verus

Start at: 2019-02-12 05:12:58
End at: 2019-02-12 05:13:28
Local clock offset: -0.087 ms
Remote clock offset: -0.832 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.55 Mbit/s
95th percentile per-packet one-way delay: 191.496 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 199.37 Mbit/s
95th percentile per-packet one-way delay: 195.148 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 90.99 Mbit/s
95th percentile per-packet one-way delay: 76.129 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 133.10 Mbit/s
95th percentile per-packet one-way delay: 195.694 ms
Loss rate: 0.09%
Run 2: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 201.35 Mbit/s)
- Flow 1 egress (mean 199.37 Mbit/s)
- Flow 2 ingress (mean 90.99 Mbit/s)
- Flow 2 egress (mean 90.99 Mbit/s)
- Flow 3 ingress (mean 133.24 Mbit/s)
- Flow 3 egress (mean 133.10 Mbit/s)

![Graph showing one-way delay over time.]

Legend:
- Flow 1 (95th percentile 195.15 ms)
- Flow 2 (95th percentile 76.13 ms)
- Flow 3 (95th percentile 195.69 ms)
Run 3: Statistics of Verus

Start at: 2019-02-12 05:49:53
End at: 2019-02-12 05:50:23
Local clock offset: 0.029 ms
Remote clock offset: -0.602 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
95th percentile per-packet one-way delay: 193.203 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 148.13 Mbit/s
95th percentile per-packet one-way delay: 200.589 ms
Loss rate: 2.18%
-- Flow 2:
Average throughput: 89.90 Mbit/s
95th percentile per-packet one-way delay: 81.987 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.20 Mbit/s
95th percentile per-packet one-way delay: 69.170 ms
Loss rate: 0.02%
Run 3: Report of Verus — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 152.06 Mbps)
- Flow 1 egress (mean 148.13 Mbps)
- Flow 2 ingress (mean 89.90 Mbps)
- Flow 2 egress (mean 89.90 Mbps)
- Flow 3 ingress (mean 65.21 Mbps)
- Flow 3 egress (mean 65.20 Mbps)

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

- Flow 1 (95th percentile 200.59 ms)
- Flow 2 (95th percentile 81.99 ms)
- Flow 3 (95th percentile 69.17 ms)
Run 4: Statistics of Verus

Start at: 2019-02-12 06:26:54
End at: 2019-02-12 06:27:24
Local clock offset: -0.142 ms
Remote clock offset: -0.822 ms

# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 296.84 Mbit/s
  95th percentile per-packet one-way delay: 204.318 ms
  Loss rate: 1.14%
-- Flow 1:
  Average throughput: 187.52 Mbit/s
  95th percentile per-packet one-way delay: 220.526 ms
  Loss rate: 1.80%
-- Flow 2:
  Average throughput: 103.77 Mbit/s
  95th percentile per-packet one-way delay: 141.366 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 126.14 Mbit/s
  95th percentile per-packet one-way delay: 172.687 ms
  Loss rate: 0.00%
Run 4: Report of Verus — Data Link

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

The graphs illustrate the throughput and packet delay for three different flows during a 30-second period. The throughput graphs show the amount of data transferred (in Mbps) over time, while the packet delay graphs indicate the time delay for each packet transmitted.

- **Flow 1**: Ingress (mean 191.17 Mbps) and Egress (mean 187.52 Mbps)
- **Flow 2**: Ingress (mean 103.79 Mbps) and Egress (mean 103.77 Mbps)
- **Flow 3**: Ingress (mean 126.14 Mbps) and Egress (mean 126.14 Mbps)

The 95th percentile delays for each flow are:
- **Flow 1**: 220.53 ms
- **Flow 2**: 141.37 ms
- **Flow 3**: 172.69 ms
Run 5: Statistics of Verus

Start at: 2019-02-12 07:03:40
End at: 2019-02-12 07:04:10
Local clock offset: -0.121 ms
Remote clock offset: -0.811 ms

# Below is generated by plot.py at 2019-02-12 10:51:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 270.89 Mbit/s
  95th percentile per-packet one-way delay: 147.074 ms
  Loss rate: 0.44%
-- Flow 1:
  Average throughput: 171.20 Mbit/s
  95th percentile per-packet one-way delay: 159.089 ms
  Loss rate: 0.68%
-- Flow 2:
  Average throughput: 103.17 Mbit/s
  95th percentile per-packet one-way delay: 80.819 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 94.82 Mbit/s
  95th percentile per-packet one-way delay: 123.156 ms
  Loss rate: 0.06%
Run 5: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 172.45 Mbps)  
Flow 1 egress (mean 171.20 Mbps)
Flow 2 ingress (mean 103.17 Mbps)  
Flow 2 egress (mean 103.17 Mbps)
Flow 3 ingress (mean 94.87 Mbps)  
Flow 3 egress (mean 94.82 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 159.09 ms)  
Flow 2 (95th percentile 80.82 ms)  
Flow 3 (95th percentile 123.16 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 04:04:38
End at: 2019-02-12 04:05:08
Local clock offset: -0.098 ms
Remote clock offset: -0.833 ms

# Below is generated by plot.py at 2019-02-12 10:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 588.26 Mbit/s
95th percentile per-packet one-way delay: 125.841 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 332.27 Mbit/s
95th percentile per-packet one-way delay: 120.784 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 338.35 Mbit/s
95th percentile per-packet one-way delay: 139.919 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 86.12 Mbit/s
95th percentile per-packet one-way delay: 62.905 ms
Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 335.03 Mbit/s)
- Flow 1 egress (mean 332.27 Mbit/s)
- Flow 2 ingress (mean 339.49 Mbit/s)
- Flow 2 egress (mean 338.35 Mbit/s)
- Flow 3 ingress (mean 86.12 Mbit/s)
- Flow 3 egress (mean 86.12 Mbit/s)

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

- Flow 1 (95th percentile 120.78 ms)
- Flow 2 (95th percentile 139.92 ms)
- Flow 3 (95th percentile 62.91 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 04:40:45
End at: 2019-02-12 04:41:15
Local clock offset: -0.062 ms
Remote clock offset: -1.316 ms

# Below is generated by plot.py at 2019-02-12 10:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.29 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 311.37 Mbit/s
95th percentile per-packet one-way delay: 65.136 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 201.65 Mbit/s
95th percentile per-packet one-way delay: 63.172 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 163.27 Mbit/s
95th percentile per-packet one-way delay: 67.733 ms
Loss rate: 0.00%
Run 2: Report of PCC-Vivace — Data Link

![Data Link Graph]

- Flow 1 ingress (mean 311.38 Mbit/s)
- Flow 1 egress (mean 311.37 Mbit/s)
- Flow 2 ingress (mean 201.65 Mbit/s)
- Flow 2 egress (mean 201.05 Mbit/s)
- Flow 3 ingress (mean 163.24 Mbit/s)
- Flow 3 egress (mean 163.27 Mbit/s)

![Per-packet one-way delay Graph]

- Flow 1 (95th percentile 65.14 ms)
- Flow 2 (95th percentile 63.17 ms)
- Flow 3 (95th percentile 67.73 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 05:18:04
End at: 2019-02-12 05:18:34
Local clock offset: -0.046 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2019-02-12 10:54:21
# Datalink statistics

-- Total of 3 flows:
Average throughput: 542.85 Mbit/s
95th percentile per-packet one-way delay: 89.860 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 287.62 Mbit/s
95th percentile per-packet one-way delay: 76.971 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 244.51 Mbit/s
95th percentile per-packet one-way delay: 68.813 ms
Loss rate: 0.01%

-- Flow 3:
Average throughput: 280.96 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 287.61 Mbps)  
Flow 1 egress (mean 287.62 Mbps)
Flow 2 ingress (mean 244.54 Mbps)  
Flow 2 egress (mean 244.51 Mbps)
Flow 3 ingress (mean 280.94 Mbps)  
Flow 3 egress (mean 280.96 Mbps)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 76.97 ms)  
Flow 2 (95th percentile 68.81 ms)  
Flow 3 (95th percentile 137.64 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 05:54:49
End at: 2019-02-12 05:55:19
Local clock offset: 0.047 ms
Remote clock offset: -0.605 ms

# Below is generated by plot.py at 2019-02-12 10:54:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.44 Mbit/s
95th percentile per-packet one-way delay: 65.540 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 339.33 Mbit/s
95th percentile per-packet one-way delay: 65.509 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 277.29 Mbit/s
95th percentile per-packet one-way delay: 65.709 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 62.294 ms
Loss rate: 0.00%
Run 4: Report of PCC-Vivace — Data Link

![Graph showing throughput and packet delay over time for different flows. The graphs depict the throughput and packet delay for Flow 1, Flow 2, and Flow 3.](image-url)
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 06:31:58
End at: 2019-02-12 06:32:28
Local clock offset: -0.199 ms
Remote clock offset: -0.856 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.36 Mbit/s
95th percentile per-packet one-way delay: 66.637 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 260.91 Mbit/s
95th percentile per-packet one-way delay: 64.468 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 199.05 Mbit/s
95th percentile per-packet one-way delay: 115.964 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 179.56 Mbit/s
95th percentile per-packet one-way delay: 64.044 ms
Loss rate: 0.03%
Run 5: Report of PCC-Vivace — Data Link

Throughput (Mbit/s) vs Time (s)

Flow 1 ingress (mean 260.90 Mbit/s) — Flow 1 egress (mean 260.91 Mbit/s)
Flow 2 ingress (mean 199.87 Mbit/s) — Flow 2 egress (mean 199.05 Mbit/s)
Flow 3 ingress (mean 179.60 Mbit/s) — Flow 3 egress (mean 179.56 Mbit/s)

Delay (ms) vs Time (s)

Flow 1 (95th percentile 64.47 ms) — Flow 2 (95th percentile 115.96 ms) — Flow 3 (95th percentile 64.04 ms)
Run 1: Statistics of WebRTC media

Start at: 2019-02-12 04:03:25
End at: 2019-02-12 04:03:55
Local clock offset: -0.101 ms
Remote clock offset: -0.847 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.94 Mbit/s
  95th percentile per-packet one-way delay: 62.460 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 65.486 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.81 Mbit/s
  95th percentile per-packet one-way delay: 62.468 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.69 Mbit/s
  95th percentile per-packet one-way delay: 62.340 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

[Graph showing throughput and per-packet end-to-end delay over time for different flows, with legend indicating mean throughput and 95th percentile delay for each flow.]
Run 2: Statistics of WebRTC media

Start at: 2019-02-12 04:39:33
End at: 2019-02-12 04:40:03
Local clock offset: -0.096 ms
Remote clock offset: -0.857 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 62.294 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 62.272 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 62.319 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 62.306 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-02-12 05:16:52
End at: 2019-02-12 05:17:22
Local clock offset: -0.055 ms
Remote clock offset: -0.471 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 62.619 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.640 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.546 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-02-12 05:53:36
End at: 2019-02-12 05:54:06
Local clock offset: -0.013 ms
Remote clock offset: -0.633 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 62.542 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 62.547 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 62.554 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 62.395 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2019-02-12 06:30:46
End at: 2019-02-12 06:31:16
Local clock offset: -0.158 ms
Remote clock offset: -1.026 ms

# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 62.185 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.185 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.190 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.162 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link