Pantheon Report

Generated at 2019-03-27 20:38:10 (UTC).
Data path: GCE Tokyo on ens4 (remote) → GCE Sydney on ens4 (local).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1028-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babdcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa993b031243cedb5e58e562f4
third_party/indigo @ 2601c92e4aa9d838d44dfe0edcbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaaab4a906ec6bb7f3cf
third_party/muses @ 5ce721187ad823da2095537730c746486ca4966
third_party/pantheon-tunnel @ f86663f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af9958fa0d6d18b623c091a55f8ec8724981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8ad008fa2b924e249f74ab
third_party/proto-quic @ 77961f1a8273a86b42f1bc8143ebc978f3cf4f
third_party/scream-reproduce @ f099118d421aa3131bf11ff1964974e1da3b2d2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c617801e31e4d46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutcomm.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2bf86211435ae071a32b96d7d8e504587f5d7f4
test from GCE Tokyo to GCE Sydney, 5 runs of 30s each per scheme
(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>TCP BBR</td>
<td>5</td>
<td>512.67</td>
<td>153.60</td>
<td>0.93</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>260.77</td>
<td>67.69</td>
<td>0.33</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>521.47</td>
<td>112.43</td>
<td>0.34</td>
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<td>FillP</td>
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<td>892.30</td>
<td>100.79</td>
<td>0.70</td>
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<td>FillP-Sheep</td>
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<td>847.05</td>
<td>98.28</td>
<td>0.55</td>
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<td>Indigo</td>
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<td>212.83</td>
<td>60.52</td>
<td>0.41</td>
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<td>Indigo-MusesC3</td>
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<td>539.63</td>
<td>71.81</td>
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<td>0.44</td>
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<td>Indigo-MusesD</td>
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<td>78.14</td>
<td>0.47</td>
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<td>103.56</td>
<td>0.46</td>
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<td>5</td>
<td>26.09</td>
<td>60.79</td>
<td>0.73</td>
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<td>PCC-Allegro</td>
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<td>363.61</td>
<td>129.35</td>
<td>1.11</td>
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<td>PCC-Expr</td>
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<td>289.02</td>
<td>127.59</td>
<td>3.94</td>
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<td>60.31</td>
<td>59.39</td>
<td>0.65</td>
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<td>SCReAM</td>
<td>5</td>
<td>0.22</td>
<td>58.20</td>
<td>0.39</td>
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<td>Sprout</td>
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<td>324.81</td>
<td>74.41</td>
<td>0.33</td>
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<td>Verus</td>
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<td>142.63</td>
<td>113.09</td>
<td>1.25</td>
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<td>PCC-Vivace</td>
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<td>211.96</td>
<td>62.71</td>
<td>0.64</td>
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<td>WebRTC media</td>
<td>4</td>
<td>0.05</td>
<td>58.49</td>
<td>0.00</td>
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Run 1: Statistics of TCP BBR

Start at: 2019-03-27 16:08:22
End at: 2019-03-27 16:08:52
Local clock offset: -0.198 ms
Remote clock offset: -0.156 ms

# Below is generated by plot.py at 2019-03-27 18:59:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 503.09 Mbit/s
95th percentile per-packet one-way delay: 153.488 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 503.09 Mbit/s
95th percentile per-packet one-way delay: 153.488 ms
Loss rate: 0.71%
Run 1: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 504.72 Mbps)
- Flow 1 egress (mean 503.09 Mbps)

![Graph of RTT (ms) vs Time (s)]

- Flow 1 (95th percentile 153.49 ms)
Run 2: Statistics of TCP BBR

Start at: 2019-03-27 16:40:09
End at: 2019-03-27 16:40:39
Local clock offset: 0.042 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-03-27 19:00:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.85 Mbit/s
95th percentile per-packet one-way delay: 165.054 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 521.85 Mbit/s
95th percentile per-packet one-way delay: 165.054 ms
Loss rate: 1.05%
Run 2: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 525.36 Mbit/s)**
- **Flow 1 egress (mean 521.85 Mbit/s)**

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

- **Flow 1 (95th percentile 165.85 ms)**
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 17:12:33
End at: 2019-03-27 17:13:04
Local clock offset: 0.244 ms
Remote clock offset: 0.315 ms

# Below is generated by plot.py at 2019-03-27 19:00:20
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 509.64 Mbit/s
  95th percentile per-packet one-way delay: 142.683 ms
  Loss rate: 0.73%
-- Flow 1:
  Average throughput: 509.64 Mbit/s
  95th percentile per-packet one-way delay: 142.683 ms
  Loss rate: 0.73%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1 ingress** (mean 511.44 Mbps)
- **Flow 1 egress** (mean 509.64 Mbps)

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

- **Flow 1 (95th percentile 142.68 ms)**
Run 4: Statistics of TCP BBR

Start at: 2019-03-27 17:43:04
End at: 2019-03-27 17:43:34
Local clock offset: -0.08 ms
Remote clock offset: 0.553 ms

# Below is generated by plot.py at 2019-03-27 19:00:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 505.44 Mbit/s
95th percentile per-packet one-way delay: 145.069 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 505.44 Mbit/s
95th percentile per-packet one-way delay: 145.069 ms
Loss rate: 0.89%
Run 4: Report of TCP BBR — Data Link

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

![Graph 2: Per-packet round trip delay vs. Time](image2)
Run 5: Statistics of TCP BBR

Start at: 2019-03-27 18:13:51
End at: 2019-03-27 18:14:21
Local clock offset: -0.005 ms
Remote clock offset: 0.12 ms

# Below is generated by plot.py at 2019-03-27 19:00:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 523.34 Mbit/s
95th percentile per-packet one-way delay: 161.687 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 523.34 Mbit/s
95th percentile per-packet one-way delay: 161.687 ms
Loss rate: 1.29%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-03-27 16:23:09
End at: 2019-03-27 16:23:39
Local clock offset: -0.209 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2019-03-27 19:00:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.69 Mbit/s
95th percentile per-packet one-way delay: 63.895 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 220.69 Mbit/s
95th percentile per-packet one-way delay: 63.895 ms
Loss rate: 0.20%
Run 1: Report of Copa — Data Link

![Graph of throughput and packet delay over time]

- Flow 1 ingress (mean 220.28 Mbit/s)
- Flow 1 egress (mean 220.69 Mbit/s)

![Graph of packet drop rate over time]

- Flow 1 (95th percentile 63.90 ms)
Run 2: Statistics of Copa

Start at: 2019-03-27 16:55:09
Local clock offset: -0.207 ms
Remote clock offset: 0.229 ms

# Below is generated by plot.py at 2019-03-27 19:00:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.35 Mbit/s
95th percentile per-packet one-way delay: 67.478 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 285.35 Mbit/s
95th percentile per-packet one-way delay: 67.478 ms
Loss rate: 0.44%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2019-03-27 17:26:47
End at: 2019-03-27 17:27:17
Local clock offset: -0.144 ms
Remote clock offset: 0.355 ms

# Below is generated by plot.py at 2019-03-27 19:00:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 229.34 Mbit/s
95th percentile per-packet one-way delay: 61.661 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 229.34 Mbit/s
95th percentile per-packet one-way delay: 61.661 ms
Loss rate: 0.29%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2019-03-27 17:57:32
End at: 2019-03-27 17:58:02
Local clock offset: 0.128 ms
Remote clock offset: 0.368 ms

# Below is generated by plot.py at 2019-03-27 19:08:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 282.58 Mbit/s
95th percentile per-packet one-way delay: 77.336 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 282.58 Mbit/s
95th percentile per-packet one-way delay: 77.336 ms
Loss rate: 0.36%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2019-03-27 18:29:08
End at: 2019-03-27 18:29:38
Local clock offset: 0.308 ms
Remote clock offset: 0.28 ms

# Below is generated by plot.py at 2019-03-27 19:08:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.91 Mbit/s
95th percentile per-packet one-way delay: 68.101 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 285.91 Mbit/s
95th percentile per-packet one-way delay: 68.101 ms
Loss rate: 0.35%
Run 5: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 16:01:59
End at: 2019-03-27 16:02:29
Local clock offset: -0.637 ms
Remote clock offset: 0.233 ms

# Below is generated by plot.py at 2019-03-27 19:08:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 459.99 Mbit/s
95th percentile per-packet one-way delay: 95.370 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 459.99 Mbit/s
95th percentile per-packet one-way delay: 95.370 ms
Loss rate: 0.37%
Run 1: Report of TCP Cubic — Data Link

![Graph showing TCP Cubic performance](image1)

- **Flow 1 ingress** (mean 459.94 Mbit/s)
- **Flow 1 egress** (mean 459.99 Mbit/s)

![Graph showing TCP Cubic latency](image2)

- **Flow 1 (95th percentile 95.37 ms)**
Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 16:33:23
End at: 2019-03-27 16:33:53
Local clock offset: 0.19 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-03-27 19:10:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 547.28 Mbit/s
95th percentile per-packet one-way delay: 92.732 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 547.28 Mbit/s
95th percentile per-packet one-way delay: 92.732 ms
Loss rate: 0.43%
Run 2: Report of TCP Cubic — Data Link

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

Flow 1 ingress (mean 547.52 Mbit/s)  Flow 1 egress (mean 547.28 Mbit/s)

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

Flow 1 (95th percentile 92.73 ms)
Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 17:05:42
End at: 2019-03-27 17:06:12
Local clock offset: 0.247 ms
Remote clock offset: 0.183 ms

# Below is generated by plot.py at 2019-03-27 19:10:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 524.28 Mbit/s
95th percentile per-packet one-way delay: 85.690 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 524.28 Mbit/s
95th percentile per-packet one-way delay: 85.690 ms
Loss rate: 0.26%
Run 3: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 523.65 Mbit/s)
- Flow 1 egress (mean 524.28 Mbit/s)

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

- Flow 1 (95th percentile 85.69 ms)
Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 17:36:37
End at: 2019-03-27 17:37:07
Local clock offset: -0.529 ms
Remote clock offset: 0.301 ms

# Below is generated by plot.py at 2019-03-27 19:10:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 533.31 Mbit/s
95th percentile per-packet one-way delay: 128.625 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 533.31 Mbit/s
95th percentile per-packet one-way delay: 128.625 ms
Loss rate: 0.35%
Run 4: Report of TCP Cubic — Data Link

![Graph showing throughput over time](image1)

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![Graph showing packet delay over time](image2)
Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 18:07:25
End at: 2019-03-27 18:07:55
Local clock offset: 0.283 ms
Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2019-03-27 19:10:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 542.48 Mbit/s
95th percentile per-packet one-way delay: 159.746 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 542.48 Mbit/s
95th percentile per-packet one-way delay: 159.746 ms
Loss rate: 0.30%
Run 5: Report of TCP Cubic — Data Link

![Throughput Graph](image1)

- Flow 1 ingress (mean 542.03 Mbit/s)
- Flow 1 egress (mean 542.48 Mbit/s)

![Delay Graph](image2)

- Flow 1 (95th percentile 159.75 ms)
Run 1: Statistics of FillP

End at: 2019-03-27 16:29:25
Local clock offset: -0.614 ms
Remote clock offset: -0.452 ms

# Below is generated by plot.py at 2019-03-27 19:17:58
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 834.72 Mbit/s
  95th percentile per-packet one-way delay: 104.664 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 834.72 Mbit/s
  95th percentile per-packet one-way delay: 104.664 ms
  Loss rate: 0.67%
Run 1: Report of FillP — Data Link

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

- Flow 1 ingress (mean 837.11 Mbps)
- Flow 1 egress (mean 834.72 Mbps)

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

- Flow 1 (95th percentile 104.66 ms)
Run 2: Statistics of FillP

Start at: 2019-03-27 17:01:07
End at: 2019-03-27 17:01:37
Local clock offset: -0.191 ms
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2019-03-27 19:29:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 893.87 Mbit/s
95th percentile per-packet one-way delay: 105.527 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 893.87 Mbit/s
95th percentile per-packet one-way delay: 105.527 ms
Loss rate: 0.58%
Run 2: Report of FillP — Data Link

![Graph showing throughput and packet delay over time for Flow 1 ingress and egress.]
Run 3: Statistics of FillP

Start at: 2019-03-27 17:32:24
End at: 2019-03-27 17:32:54
Local clock offset: 0.307 ms
Remote clock offset: 0.499 ms

# Below is generated by plot.py at 2019-03-27 19:29:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 865.63 Mbit/s
95th percentile per-packet one-way delay: 116.131 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 865.63 Mbit/s
95th percentile per-packet one-way delay: 116.131 ms
Loss rate: 1.21%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2019-03-27 18:03:09
End at: 2019-03-27 18:03:39
Local clock offset: 0.12 ms
Remote clock offset: 0.363 ms

# Below is generated by plot.py at 2019-03-27 19:30:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 934.35 Mbit/s
95th percentile per-packet one-way delay: 94.917 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 934.35 Mbit/s
95th percentile per-packet one-way delay: 94.917 ms
Loss rate: 0.62%
Run 4: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 936.58 Mbps)
- Flow 1 Egress (mean 934.35 Mbps)

![Graph 2: Per Socket One-Way Delay (ms)](image2)

- Flow 1 (95th percentile 94.92 ms)
Run 5: Statistics of FillP

Start at: 2019-03-27 18:35:21
End at: 2019-03-27 18:35:51
Local clock offset: -0.293 ms
Remote clock offset: -0.213 ms

# Below is generated by plot.py at 2019-03-27 19:31:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 932.95 Mbit/s
95th percentile per-packet one-way delay: 82.723 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 932.95 Mbit/s
95th percentile per-packet one-way delay: 82.723 ms
Loss rate: 0.41%
Run 5: Report of FillP — Data Link

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

- Flow 1 ingress (mean 933.16 Mbps)
- Flow 1 egress (mean 932.95 Mbps)

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

- Flow 1 (95th percentile 82.72 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 16:03:30
End at: 2019-03-27 16:04:00
Local clock offset: -0.025 ms
Remote clock offset: -0.246 ms

# Below is generated by plot.py at 2019-03-27 19:31:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 846.59 Mbit/s
95th percentile per-packet one-way delay: 91.079 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 846.59 Mbit/s
95th percentile per-packet one-way delay: 91.079 ms
Loss rate: 0.45%
Run 1: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 847.17 Mbps)
- Flow 1 egress (mean 846.59 Mbps)

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

- Flow 1 (95th percentile 91.08 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 16:35:08
End at: 2019-03-27 16:35:38
Local clock offset: -0.2 ms
Remote clock offset: 0.344 ms

# Below is generated by plot.py at 2019-03-27 19:31:21
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 864.95 Mbit/s
  95th percentile per-packet one-way delay: 93.239 ms
  Loss rate: 0.48%
-- Flow 1:
  Average throughput: 864.95 Mbit/s
  95th percentile per-packet one-way delay: 93.239 ms
  Loss rate: 0.48%
Run 2: Report of FillP-Sheep — Data Link

Graph 1: Throughput (Mbps)

Graph 2: Per-packet end-to-end delay (ms)
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 17:07:23
End at: 2019-03-27 17:07:53
Local clock offset: -0.26 ms
Remote clock offset: 0.37 ms

# Below is generated by plot.py at 2019-03-27 19:31:21
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 846.80 Mbit/s
  95th percentile per-packet one-way delay: 94.626 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 846.80 Mbit/s
  95th percentile per-packet one-way delay: 94.626 ms
  Loss rate: 0.47%
Run 3: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 847.84 Mbps)
- Flow 1 egress (mean 846.80 Mbps)

![Graph 2: Per Packet RTT (ms)](image2)

- Flow 1 (95th percentile 94.63 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 17:38:12
End at: 2019-03-27 17:38:42
Local clock offset: -0.293 ms
Remote clock offset: 0.569 ms

# Below is generated by plot.py at 2019-03-27 19:40:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 837.79 Mbit/s
95th percentile per-packet one-way delay: 110.379 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 837.79 Mbit/s
95th percentile per-packet one-way delay: 110.379 ms
Loss rate: 0.74%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 18:08:59
End at: 2019-03-27 18:09:29
Local clock offset: -0.126 ms
Remote clock offset: 0.479 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 839.14 Mbit/s
95th percentile per-packet one-way delay: 102.069 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 839.14 Mbit/s
95th percentile per-packet one-way delay: 102.069 ms
Loss rate: 0.59%
Run 5: Report of FillP-Sheep — Data Link

![Graph of Throughput vs Time](image1)

**Throughput (Mbit/s)**

![Graph of Packet Delays vs Time](image2)

**Per packet one way delay (ms)**
Run 1: Statistics of Indigo

Start at: 2019-03-27 16:16:47
End at: 2019-03-27 16:17:17
Local clock offset: -0.612 ms
Remote clock offset: -0.604 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 219.69 Mbit/s
95th percentile per-packet one-way delay: 61.604 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 219.69 Mbit/s
95th percentile per-packet one-way delay: 61.604 ms
Loss rate: 0.44%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2019-03-27 16:48:29
End at: 2019-03-27 16:48:59
Local clock offset: -0.22 ms
Remote clock offset: 0.299 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 216.00 Mbit/s
95th percentile per-packet one-way delay: 61.253 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 216.00 Mbit/s
95th percentile per-packet one-way delay: 61.253 ms
Loss rate: 0.41%
Run 2: Report of Indigo — Data Link

![Graph showing throughput over time for two flows]

- Flow 1 ingress (mean 216.04 Mbit/s)
- Flow 1 egress (mean 216.00 Mbit/s)

![Graph showing packet arrival delay over time for Flow 1]

- Flow 1 (95th percentile 61.25 ms)
Run 3: Statistics of Indigo

Start at: 2019-03-27 17:20:41
End at: 2019-03-27 17:21:11
Local clock offset: -0.236 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 201.67 Mbit/s
  95th percentile per-packet one-way delay: 59.021 ms
  Loss rate: 0.35%
-- Flow 1:
  Average throughput: 201.67 Mbit/s
  95th percentile per-packet one-way delay: 59.021 ms
  Loss rate: 0.35%
Run 3: Report of Indigo — Data Link

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

- **Flow 1 ingress (mean 201.60 Mbit/s)**
- **Flow 1 egress (mean 201.67 Mbit/s)**

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

- **Flow 1 (95th percentile 59.02 ms)**
Run 4: Statistics of Indigo

Start at: 2019-03-27 17:51:21
End at: 2019-03-27 17:51:51
Local clock offset: ~0.173 ms
Remote clock offset: 0.264 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.17 Mbit/s
95th percentile per-packet one-way delay: 62.132 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 213.17 Mbit/s
95th percentile per-packet one-way delay: 62.132 ms
Loss rate: 0.45%
Run 4: Report of Indigo — Data Link

![Graph of Throughput and Delay](image)

**Graph Details:**
- **Throughput (Mbps):** Y-axis ranging from 0 to 250.
- **Time (s):** X-axis ranging from 0 to 30.
- **Flow 1 Ingress:** Solid line, mean 213.28 Mbps.
- **Flow 1 Egress:** Dashed line, mean 213.17 Mbps.

**Per Packet One Way Delay (ms):**
- Y-axis ranging from 60.0 to 77.5.
- X-axis ranging from 0 to 30.
- **Flow 1:** 99th percentile 62.13 ms.

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Run 5: Statistics of Indigo

End at: 2019-03-27 18:22:50
Local clock offset: 0.152 ms
Remote clock offset: -0.235 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.62 Mbit/s
95th percentile per-packet one-way delay: 58.574 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 213.62 Mbit/s
95th percentile per-packet one-way delay: 58.574 ms
Loss rate: 0.38%
Run 5: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 213.61 Mbit/s)
- Flow 1 egress (mean 213.62 Mbit/s)

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

- Flow 1 (95th percentile 58.57 ms)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 16:25:54
End at: 2019-03-27 16:26:25
Local clock offset: -0.453 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 531.35 Mbit/s
95th percentile per-packet one-way delay: 72.496 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 531.35 Mbit/s
95th percentile per-packet one-way delay: 72.496 ms
Loss rate: 0.46%
Run 1: Report of Indigo-MusesC3 — Data Link
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 16:58:02
End at: 2019-03-27 16:58:32
Local clock offset: -0.431 ms
Remote clock offset: 0.295 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 539.22 Mbit/s
95th percentile per-packet one-way delay: 67.957 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 539.22 Mbit/s
95th percentile per-packet one-way delay: 67.957 ms
Loss rate: 0.48%
Run 2: Report of Indigo-MusesC3 — Data Link

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

- Flow 1 ingress (mean 5.3963 Mbps)
- Flow 1 egress (mean 5.3922 Mbps)

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

- Flow 1 (95th percentile 67.96 ms)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 17:29:28
End at: 2019-03-27 17:29:58
Local clock offset: -0.215 ms
Remote clock offset: 0.306 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 549.35 Mbit/s
  95th percentile per-packet one-way delay: 72.191 ms
  Loss rate: 0.43%
-- Flow 1:
  Average throughput: 549.35 Mbit/s
  95th percentile per-packet one-way delay: 72.191 ms
  Loss rate: 0.43%
Run 3: Report of Indigo-MusesC3 — Data Link

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

- **Flow 1 ingress (mean 549.42 Mbps)**
- **Flow 1 egress (mean 549.35 Mbps)**

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

- **Flow 1 (95th percentile 72.19 ms)**
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 18:00:17
End at: 2019-03-27 18:00:47
Local clock offset: -0.115 ms
Remote clock offset: 0.504 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.13 Mbit/s
95th percentile per-packet one-way delay: 70.849 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 521.13 Mbit/s
95th percentile per-packet one-way delay: 70.849 ms
Loss rate: 0.45%
Run 4: Report of Indigo-MusesC3 — Data Link

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

- Flow 1 ingress (mean 521.37 Mbps)
- Flow 1 egress (mean 521.13 Mbps)

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

- Flow 1 (95th percentile 70.85 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 18:32:09
End at: 2019-03-27 18:32:39
Local clock offset: -0.08 ms
Remote clock offset: -0.365 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 557.11 Mbit/s
95th percentile per-packet one-way delay: 75.536 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 557.11 Mbit/s
95th percentile per-packet one-way delay: 75.536 ms
Loss rate: 0.32%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 16:06:44
End at: 2019-03-27 16:07:14
Local clock offset: -0.189 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2019-03-27 19:48:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 548.98 Mbit/s
95th percentile per-packet one-way delay: 95.096 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 548.98 Mbit/s
95th percentile per-packet one-way delay: 95.096 ms
Loss rate: 0.43%
Run 1: Report of Indigo-MusesC5 — Data Link

![Graph of Throughput](image1)

- Flow 1 ingress (mean 549.14 Mbit/s)
- Flow 1 egress (mean 548.98 Mbit/s)

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

- Flow 1 (95th percentile 95.10 ms)
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 16:38:29
End at: 2019-03-27 16:38:59
Local clock offset: -0.167 ms
Remote clock offset: 0.299 ms

# Below is generated by plot.py at 2019-03-27 19:51:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 558.87 Mbit/s
95th percentile per-packet one-way delay: 88.458 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 558.87 Mbit/s
95th percentile per-packet one-way delay: 88.458 ms
Loss rate: 0.42%
Run 2: Report of Indigo-MusesC5 — Data Link

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

- **Flow 1 ingress (mean 558.91 Mbit/s)**
- **Flow 1 egress (mean 558.87 Mbit/s)**

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

- **Flow 1 (95th percentile 88.46 ms)**
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 17:10:49
End at: 2019-03-27 17:11:19
Local clock offset: 0.267 ms
Remote clock offset: 0.233 ms

# Below is generated by plot.py at 2019-03-27 19:52:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 567.74 Mbit/s
95th percentile per-packet one-way delay: 94.669 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 567.74 Mbit/s
95th percentile per-packet one-way delay: 94.669 ms
Loss rate: 0.51%
Run 3: Report of Indigo-MusesC5 — Data Link

![Graph showing throughput and delay over time]

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 568.29 Mbit/s)
  - Flow 1 egress (mean 567.74 Mbit/s)

- **Per packet one way delay (ms)**
  - Flow 1 (95th percentile 94.67 ms)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 17:41:26
End at: 2019-03-27 17:41:56
Local clock offset: -0.516 ms
Remote clock offset: 0.375 ms

# Below is generated by plot.py at 2019-03-27 19:58:01
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 565.01 Mbit/s
  95th percentile per-packet one-way delay: 124.171 ms
  Loss rate: 0.45%
-- Flow 1:
  Average throughput: 565.01 Mbit/s
  95th percentile per-packet one-way delay: 124.171 ms
  Loss rate: 0.45%
Run 4: Report of Indigo-MusesC5 — Data Link

![Throughput and Packet Delay Graphs]

- Flow 1 ingress (mean 565.20 Mbit/s)
- Flow 1 egress (mean 565.01 Mbit/s)

- Flow 1 (95th percentile 124.17 ms)
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 18:12:13
End at: 2019-03-27 18:12:43
Local clock offset: 0.237 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2019-03-27 19:58:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 572.42 Mbit/s
95th percentile per-packet one-way delay: 81.579 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 572.42 Mbit/s
95th percentile per-packet one-way delay: 81.579 ms
Loss rate: 0.39%
Run 5: Report of Indigo-MusesC5 — Data Link

![Graph of Throughput vs Time](image1)

![Graph of Per-packet delay vs Time](image2)
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 16:05:12
End at: 2019-03-27 16:05:42
Local clock offset: 0.107 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-03-27 19:58:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 488.78 Mbit/s
95th percentile per-packet one-way delay: 70.449 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 488.78 Mbit/s
95th percentile per-packet one-way delay: 70.449 ms
Loss rate: 0.42%
Run 1: Report of Indigo-MusesD — Data Link
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 16:36:59
End at: 2019-03-27 16:37:29
Local clock offset: 0.074 ms
Remote clock offset: 0.156 ms

# Below is generated by plot.py at 2019-03-27 19:58:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 392.27 Mbit/s
95th percentile per-packet one-way delay: 81.460 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 392.27 Mbit/s
95th percentile per-packet one-way delay: 81.460 ms
Loss rate: 0.56%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 17:09:13
End at: 2019-03-27 17:09:43
Local clock offset: 0.002 ms
Remote clock offset: 0.304 ms

# Below is generated by plot.py at 2019-03-27 19:58:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 494.49 Mbit/s
95th percentile per-packet one-way delay: 83.190 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 494.49 Mbit/s
95th percentile per-packet one-way delay: 83.190 ms
Loss rate: 0.39%
Run 3: Report of Indigo-MusesD — Data Link

**Graph 1:**
- **Throughput (Mbps):**
  - Y-axis range: 0 to 600
  - X-axis range: 0 to 25
  - Legend:
    - Dashed line: Flow 1 ingress (mean 494.44 Mbps)
    - Solid line: Flow 1 egress (mean 494.49 Mbps)

**Graph 2:**
- **Per-packet one-way delay (ms):**
  - Y-axis range: 0 to 100
  - X-axis range: 0 to 25
  - Legend:
    - Flow 1 (95th percentile: 83.19 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 17:39:54
End at: 2019-03-27 17:40:24
Local clock offset: -0.399 ms
Remote clock offset: 1.05 ms

# Below is generated by plot.py at 2019-03-27 19:58:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 447.22 Mbit/s
95th percentile per-packet one-way delay: 69.135 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 447.22 Mbit/s
95th percentile per-packet one-way delay: 69.135 ms
Loss rate: 0.44%
Run 4: Report of Indigo-MusesD — Data Link

![Graph showing throughput and delay over time for Flow 1 with ingress and egress data.]

- Flow 1 ingress (mean 447.40 Mbit/s)
- Flow 1 egress (mean 447.22 Mbit/s)

![Graph showing per-packet one-way delay for Flow 1 with a 95th percentile of 69.14 ms.]
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 18:10:42
End at: 2019-03-27 18:11:12
Local clock offset: ~0.102 ms
Remote clock offset: 0.391 ms

# Below is generated by plot.py at 2019-03-27 20:01:10
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 477.35 Mbit/s
  95th percentile per-packet one-way delay: 86.476 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 477.35 Mbit/s
  95th percentile per-packet one-way delay: 86.476 ms
  Loss rate: 0.52%
Run 5: Report of Indigo-MusesD — Data Link

![Throughput vs Time Graph](image1)

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![Delay vs Time Graph](image2)

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Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 16:18:19
End at: 2019-03-27 16:18:49
Local clock offset: -0.389 ms
Remote clock offset: -0.277 ms

# Below is generated by plot.py at 2019-03-27 20:04:56
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 584.72 Mbit/s
  95th percentile per-packet one-way delay: 99.007 ms
  Loss rate: 0.37%
-- Flow 1:
  Average throughput: 584.72 Mbit/s
  95th percentile per-packet one-way delay: 99.007 ms
  Loss rate: 0.37%
Run 1: Report of Indigo-MusesT — Data Link
Run 2: Statistics of Indigo-MuseST

Start at: 2019-03-27 16:50:03
End at: 2019-03-27 16:50:33
Local clock offset: -0.212 ms
Remote clock offset: 0.151 ms

# Below is generated by plot.py at 2019-03-27 20:07:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 604.26 Mbit/s
95th percentile per-packet one-way delay: 114.408 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 604.26 Mbit/s
95th percentile per-packet one-way delay: 114.408 ms
Loss rate: 0.49%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 17:22:09
End at: 2019-03-27 17:22:39
Local clock offset: -0.529 ms
Remote clock offset: 0.434 ms

# Below is generated by plot.py at 2019-03-27 20:07:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 564.72 Mbit/s
95th percentile per-packet one-way delay: 88.925 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 564.72 Mbit/s
95th percentile per-packet one-way delay: 88.925 ms
Loss rate: 0.49%
Run 3: Report of Indigo-MusesT — Data Link

![Throughput Graph]

- **Flow 1 ingress**: mean 565.17 Mbit/s
- **Flow 1 egress**: mean 564.72 Mbit/s

![Delay Graph]

- **Flow 1 (95th percentile)**: 88.92 ms
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 17:52:49
End at: 2019-03-27 17:53:19
Local clock offset: -0.294 ms
Remote clock offset: 1.042 ms

# Below is generated by plot.py at 2019-03-27 20:08:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 573.06 Mbit/s
95th percentile per-packet one-way delay: 103.895 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 573.06 Mbit/s
95th percentile per-packet one-way delay: 103.895 ms
Loss rate: 0.42%
Run 4: Report of Indigo-MusesT — Data Link

![Graph](image)

**Throughput (Mbps)**

- **Flow 1 ingress (mean 573.12 Mbps)**
- **Flow 1 egress (mean 573.06 Mbps)**

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

- **Flow 1 (95th percentile 103.89 ms)**
Run 5: Statistics of Indigo-MusesT

End at: 2019-03-27 18:24:23
Local clock offset: -0.366 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 610.43 Mbit/s
95th percentile per-packet one-way delay: 111.559 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 610.43 Mbit/s
95th percentile per-packet one-way delay: 111.559 ms
Loss rate: 0.54%
Run 5: Report of Indigo-MusesT — Data Link

![Graph 1](image1.png)

- **Flow 1 ingress (mean 611.31 Mbit/s)**
- **Flow 1 egress (mean 610.43 Mbit/s)**

![Graph 2](image2.png)

- **Flow 1** (95th percentile 111.56 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 16:24:43
End at: 2019-03-27 16:25:13
Local clock offset: -0.221 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.66 Mbit/s
95th percentile per-packet one-way delay: 61.513 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 26.66 Mbit/s
95th percentile per-packet one-way delay: 61.513 ms
Loss rate: 0.78%
Run 1: Report of LEDBAT — Data Link

Graph 1: Throughput over 30 seconds

Graph 2: Delay over 30 seconds
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 16:56:51
End at: 2019-03-27 16:57:21
Local clock offset: -0.414 ms
Remote clock offset: 0.093 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.75 Mbit/s
95th percentile per-packet one-way delay: 58.266 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 26.75 Mbit/s
95th percentile per-packet one-way delay: 58.266 ms
Loss rate: 0.48%
Run 2: Report of LEDBAT — Data Link

![Graph of throughput vs time](image1.png)

- **Flow 1 ingress** (mean 26.78 Mbit/s)
- **Flow 1 egress** (mean 26.75 Mbit/s)

![Graph of per-packet round-trip time](image2.png)

- **Flow 1** (95th percentile 58.27 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-03-27 17:28:17
End at: 2019-03-27 17:28:47
Local clock offset: 0.295 ms
Remote clock offset: 0.137 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.15 Mbit/s
95th percentile per-packet one-way delay: 62.548 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 25.15 Mbit/s
95th percentile per-packet one-way delay: 62.548 ms
Loss rate: 0.81%
Run 3: Report of LEDBAT — Data Link

![Graph of Throughput vs Time](image1)

- **Flow 1 ingress (mean 25.25 Mbit/s)**
- **Flow 1 egress (mean 25.15 Mbit/s)**

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

- **Flow 1 (99th percentile 62.35 ms)**
Run 4: Statistics of LEDBAT

Start at: 2019-03-27 17:59:07
End at: 2019-03-27 17:59:37
Local clock offset: 0.053 ms
Remote clock offset: 0.32 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.64 Mbit/s
95th percentile per-packet one-way delay: 58.945 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 26.64 Mbit/s
95th percentile per-packet one-way delay: 58.945 ms
Loss rate: 0.79%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2019-03-27 18:30:57
End at: 2019-03-27 18:31:27
Local clock offset: -0.167 ms
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2019-03-27 20:09:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.26 Mbit/s
95th percentile per-packet one-way delay: 62.660 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 25.26 Mbit/s
95th percentile per-packet one-way delay: 62.660 ms
Loss rate: 0.81%
Run 5: Report of LEDBAT — Data Link

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

![Graph 2: Packet Delay vs Time](image2)
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 16:15:06
End at: 2019-03-27 16:15:36
Local clock offset: -0.215 ms
Remote clock offset: -0.589 ms

# Below is generated by plot.py at 2019-03-27 20:15:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 402.87 Mbit/s
95th percentile per-packet one-way delay: 141.035 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 402.87 Mbit/s
95th percentile per-packet one-way delay: 141.035 ms
Loss rate: 0.62%
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 16:46:51
End at: 2019-03-27 16:47:21
Local clock offset: -0.373 ms
Remote clock offset: 0.197 ms

# Below is generated by plot.py at 2019-03-27 20:15:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 321.16 Mbit/s
95th percentile per-packet one-way delay: 75.542 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 321.16 Mbit/s
95th percentile per-packet one-way delay: 75.542 ms
Loss rate: 0.63%
Run 2: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 321.96 Mbit/s)**
- **Flow 1 egress (mean 321.16 Mbit/s)**

![Graph of packet delay over time](image)

- **Flow 1 (95th percentile 75.54 ms)**
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 17:19:04
End at: 2019-03-27 17:19:34
Local clock offset: ~0.33 ms
Remote clock offset: 0.284 ms

# Below is generated by plot.py at 2019-03-27 20:15:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 378.16 Mbit/s
95th percentile per-packet one-way delay: 190.968 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 378.16 Mbit/s
95th percentile per-packet one-way delay: 190.968 ms
Loss rate: 2.37%
Run 3: Report of PCC-Allegro — Data Link

![Graphs showing network performance metrics over time.](image)
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 17:49:50
End at: 2019-03-27 17:50:20
Local clock offset: ~0.576 ms
Remote clock offset: 0.417 ms

# Below is generated by plot.py at 2019-03-27 20:18:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 341.62 Mbit/s
95th percentile per-packet one-way delay: 67.829 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 341.62 Mbit/s
95th percentile per-packet one-way delay: 67.829 ms
Loss rate: 0.67%
Run 4: Report of PCC-Allegro — Data Link

![Data Link Graph]

Time (s) vs. Throughput (Mbps)

- Flow 1 ingress (mean 342.59 Mbps)
- Flow 1 egress (mean 341.62 Mbps)

![Packet Delay Graph]

Time (s) vs. Per Packet one-way delay (ms)

- Flow 1 (95th percentile 67.83 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 18:20:32
End at: 2019-03-27 18:21:02
Local clock offset: -0.115 ms
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2019-03-27 20:22:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 374.23 Mbit/s
95th percentile per-packet one-way delay: 171.353 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 374.23 Mbit/s
95th percentile per-packet one-way delay: 171.353 ms
Loss rate: 1.24%
Run 5: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 377.44 Mbit/s)**
- **Flow 1 egress (mean 374.23 Mbit/s)**

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

- **Flow 1 (95th percentile 171.35 ms)**
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 16:20:00
End at: 2019-03-27 16:20:30
Local clock offset: -0.211 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-03-27 20:22:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 266.52 Mbit/s
95th percentile per-packet one-way delay: 101.409 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 266.52 Mbit/s
95th percentile per-packet one-way delay: 101.409 ms
Loss rate: 0.46%
Run 1: Report of PCC-Expr — Data Link

![Graph 1: Throughput vs Time]

- Flow 1 ingress (mean 266.72 Mbit/s)
- Flow 1 egress (mean 266.52 Mbit/s)

![Graph 2: Packet Delay vs Time]

- Flow 1 (95th percentile 101.41 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 16:51:45
End at: 2019-03-27 16:52:15
Local clock offset: -0.234 ms
Remote clock offset: 0.212 ms

# Below is generated by plot.py at 2019-03-27 20:22:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 307.09 Mbit/s
95th percentile per-packet one-way delay: 174.060 ms
Loss rate: 14.30%
-- Flow 1:
Average throughput: 307.09 Mbit/s
95th percentile per-packet one-way delay: 174.060 ms
Loss rate: 14.30%
Run 2: Report of PCC-Expr — Data Link

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

**Throughput (Mbps)**

- **Flow 1 ingress (mean 356.95 Mbps)**
- **Flow 1 egress (mean 307.09 Mbps)**

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

- **Flow 1 (95th percentile 174.06 ms)**
Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 17:23:47
End at: 2019-03-27 17:24:17
Local clock offset: -0.316 ms
Remote clock offset: 0.216 ms

# Below is generated by plot.py at 2019-03-27 20:22:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 261.10 Mbit/s
95th percentile per-packet one-way delay: 84.551 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 261.10 Mbit/s
95th percentile per-packet one-way delay: 84.551 ms
Loss rate: 0.61%
Run 3: Report of PCC-Expr — Data Link

- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 261.64 Mbps)
- Flow 1 egress (mean 261.10 Mbps)

- Per packet one way delay (ms)
- Time (s)
- Flow 1 (95th percentile 84.55 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 17:54:24
End at: 2019-03-27 17:54:54
Local clock offset: -0.376 ms
Remote clock offset: 0.442 ms

# Below is generated by plot.py at 2019-03-27 20:26:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 324.73 Mbit/s
95th percentile per-packet one-way delay: 173.643 ms
Loss rate: 3.59%
-- Flow 1:
Average throughput: 324.73 Mbit/s
95th percentile per-packet one-way delay: 173.643 ms
Loss rate: 3.59%
Run 4: Report of PCC-Expr — Data Link

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

- *Flow 1 ingress*: mean 335.49 Mbit/s
- *Flow 1 egress*: mean 324.73 Mbit/s

![Graph 2: RTT vs. Time (ms)](image2)

- *Flow 1 (95th percentile)*: 173.64 ms
Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 18:25:38
End at: 2019-03-27 18:26:08
Local clock offset: -0.068 ms
Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2019-03-27 20:27:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.64 Mbit/s
95th percentile per-packet one-way delay: 104.296 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 285.64 Mbit/s
95th percentile per-packet one-way delay: 104.296 ms
Loss rate: 0.72%
Run 5: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 286.61 Mbit/s)
- Flow 1 egress (mean 285.64 Mbit/s)

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

- Flow 1 (95th percentile 104.30 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 16:10:06
End at: 2019-03-27 16:10:36
Local clock offset: -0.24 ms
Remote clock offset: -1.009 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.58 Mbit/s
95th percentile per-packet one-way delay: 61.317 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 67.58 Mbit/s
95th percentile per-packet one-way delay: 61.317 ms
Loss rate: 0.62%
Run 1: Report of QUIC Cubic — Data Link

![Graph of throughput and delay](image-url)
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 16:41:56
End at: 2019-03-27 16:42:26
Local clock offset: 0.039 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 57.721 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 57.721 ms
Loss rate: 0.64%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 17:14:13
End at: 2019-03-27 17:14:43
Local clock offset: -0.566 ms
Remote clock offset: 0.369 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.99 Mbit/s
95th percentile per-packet one-way delay: 56.900 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 62.99 Mbit/s
95th percentile per-packet one-way delay: 56.900 ms
Loss rate: 0.62%
Run 3: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 63.14 Mbit/s)
- Flow 1 egress (mean 62.99 Mbit/s)

![Graph 2: RTT (ms) vs Time (s)]

- Flow 1 (99th percentile 56.90 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 17:44:46
End at: 2019-03-27 17:45:16
Local clock offset: 0.239 ms
Remote clock offset: 0.577 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.59 Mbit/s
95th percentile per-packet one-way delay: 60.632 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 55.59 Mbit/s
95th percentile per-packet one-way delay: 60.632 ms
Loss rate: 0.70%
Run 4: Report of QUIC Cubic — Data Link

![Graph showing network throughput and packet delay over time for Flow 1]
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 18:15:39
End at: 2019-03-27 18:16:09
Local clock offset: -0.157 ms
Remote clock offset: 0.175 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.93 Mbit/s
95th percentile per-packet one-way delay: 60.377 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 56.93 Mbit/s
95th percentile per-packet one-way delay: 60.377 ms
Loss rate: 0.69%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-03-27 16:30:54
End at: 2019-03-27 16:31:24
Local clock offset: -0.38 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.236 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.236 ms
Loss rate: 0.39%
Run 1: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.22 Mbps)  Flow 1 egress (mean 0.22 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 57.24 ms)
Run 2: Statistics of SCReAM

Start at: 2019-03-27 17:02:57  
End at: 2019-03-27 17:03:27  
Local clock offset: -0.151 ms  
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2019-03-27 20:27:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 57.412 ms  
Loss rate: 0.39%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 57.412 ms  
Loss rate: 0.39%
Run 2: Report of SCReAM — Data Link

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**Throughput (Mb/s)**

- Flow 1 ingress (mean 0.22 Mb/s)
- Flow 1 egress (mean 0.22 Mb/s)

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

- Flow 1 (95th percentile 57.41 ms)
Run 3: Statistics of SCReAM

Start at: 2019-03-27 17:34:08
End at: 2019-03-27 17:34:38
Local clock offset: -0.101 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.916 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.916 ms
Loss rate: 0.39%
Run 3: Report of SCReAM — Data Link

Throughput vs. Time

- Flow 1 ingress (mean 0.22 Mbit/s)
- Flow 1 egress (mean 0.22 Mbit/s)

Per Packet one way delay vs. Time

- Flow 1 (95th percentile 57.92 ms)
Run 4: Statistics of SCReAM

Start at: 2019-03-27 18:04:55
End at: 2019-03-27 18:05:25
Local clock offset: -0.166 ms
Remote clock offset: 0.508 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.675 ms
  Loss rate: 0.39%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.675 ms
  Loss rate: 0.39%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-03-27 18:37:15
End at: 2019-03-27 18:37:45
Local clock offset: -0.064 ms
Remote clock offset: -0.513 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.757 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.757 ms
Loss rate: 0.38%
Run 5: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.22 Mbit/s)  Flow 1 egress (mean 0.22 Mbit/s)

Round-trip one-way delay (ms)

Time (s)

Flow 1 (95th percentile 60.76 ms)
Run 1: Statistics of Sprout

Start at: 2019-03-27 16:12:27
End at: 2019-03-27 16:12:57
Local clock offset: -0.195 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 57.403 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 57.403 ms
Loss rate: 0.44%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-03-27 16:44:16
End at: 2019-03-27 16:44:46
Local clock offset: -0.243 ms
Remote clock offset: 0.331 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 57.962 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 57.962 ms
Loss rate: 0.47%
Run 3: Statistics of Sprout

Start at: 2019-03-27 17:16:33
End at: 2019-03-27 17:17:03
Local clock offset: -0.308 ms
Remote clock offset: 0.262 ms

# Below is generated by plot.py at 2019-03-27 20:27:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 57.845 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 57.845 ms
Loss rate: 0.42%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2019-03-27 17:47:06
End at: 2019-03-27 17:47:36
Local clock offset: 0.151 ms
Remote clock offset: 1.193 ms

# Below is generated by plot.py at 2019-03-27 20:27:26
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 7.00 Mbit/s
  95th percentile per-packet one-way delay: 61.002 ms
  Loss rate: 0.49%
-- Flow 1:
  Average throughput: 7.00 Mbit/s
  95th percentile per-packet one-way delay: 61.002 ms
  Loss rate: 0.49%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-03-27 18:17:59
End at: 2019-03-27 18:18:29
Local clock offset: -0.332 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-03-27 20:27:26
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 7.81 Mbit/s
  95th percentile per-packet one-way delay: 57.841 ms
  Loss rate: 0.44%
-- Flow 1:
  Average throughput: 7.81 Mbit/s
  95th percentile per-packet one-way delay: 57.841 ms
  Loss rate: 0.44%
Run 5: Report of Sprout — Data Link

![Graph of throughput and delay over time for Flow 1 ingress and egress](image)

Flow 1 ingress (mean 7.82 Mbit/s) and Flow 1 egress (mean 7.81 Mbit/s)

Flow 1 (95th percentile 57.84 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 16:21:37
End at: 2019-03-27 16:22:07
Local clock offset: 0.047 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-03-27 20:28:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 219.22 Mbit/s
95th percentile per-packet one-way delay: 57.863 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 219.22 Mbit/s
95th percentile per-packet one-way delay: 57.863 ms
Loss rate: 0.35%
Run 1: Report of TaoVA-100x — Data Link

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

- **Flow 1 ingress (mean 219.14 Mbit/s)**
- **Flow 1 egress (mean 219.22 Mbit/s)**

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

- **Flow 1 (95th percentile 57.06 ms)**
Run 2: Statistics of TaoVA-100x

Start at: 2019-03-27 16:53:35
End at: 2019-03-27 16:54:05
Local clock offset: -0.443 ms
Remote clock offset: 0.136 ms

# Below is generated by plot.py at 2019-03-27 20:28:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 221.57 Mbit/s
95th percentile per-packet one-way delay: 60.936 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 221.57 Mbit/s
95th percentile per-packet one-way delay: 60.936 ms
Loss rate: 0.45%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2019-03-27 17:25:19
End at: 2019-03-27 17:25:49
Local clock offset: 0.009 ms
Remote clock offset: 0.372 ms

# Below is generated by plot.py at 2019-03-27 20:28:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.46 Mbit/s
95th percentile per-packet one-way delay: 58.136 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 213.46 Mbit/s
95th percentile per-packet one-way delay: 58.136 ms
Loss rate: 0.43%
Run 3: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 213.56 Mbit/s)
- Flow 1 egress (mean 213.46 Mbit/s)

![Graph 2: Per-Packet End-to-End Delay](image2)

- Flow 1 (95th percentile 58.14 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 17:56:04
End at: 2019-03-27 17:56:34
Local clock offset: ~0.126 ms
Remote clock offset: 0.573 ms

# Below is generated by plot.py at 2019-03-27 20:29:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.68 Mbit/s
95th percentile per-packet one-way delay: 57.958 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 220.68 Mbit/s
95th percentile per-packet one-way delay: 57.958 ms
Loss rate: 0.40%
Run 4: Report of TaoVA-100x — Data Link

![Graph showing throughput vs. time for data link]

- Flow 1 ingress (mean 220.72 Mbit/s)
- Flow 1 egress (mean 220.68 Mbit/s)

![Graph showing first packet one-way delay vs. time for data link]

- Flow 1 (95th percentile 57.96 ms)
Run 5: Statistics of TaoVA-100x

End at: 2019-03-27 18:27:57
Local clock offset: 0.306 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2019-03-27 20:29:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 223.73 Mbit/s
95th percentile per-packet one-way delay: 58.482 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 223.73 Mbit/s
95th percentile per-packet one-way delay: 58.482 ms
Loss rate: 0.39%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

End at: 2019-03-27 16:14:06
Local clock offset: -0.166 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-03-27 20:29:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 361.29 Mbit/s
95th percentile per-packet one-way delay: 72.379 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 361.29 Mbit/s
95th percentile per-packet one-way delay: 72.379 ms
Loss rate: 0.24%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 16:45:25
End at: 2019-03-27 16:45:55
Local clock offset: 0.207 ms
Remote clock offset: 0.383 ms

# Below is generated by plot.py at 2019-03-27 20:31:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 276.73 Mbit/s
95th percentile per-packet one-way delay: 71.191 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 276.73 Mbit/s
95th percentile per-packet one-way delay: 71.191 ms
Loss rate: 0.30%
Run 2: Report of TCP Vegas — Data Link

[Graphs showing throughput and packet delay over time for TCP Vegas flows.]
Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 17:17:42
End at: 2019-03-27 17:18:12
Local clock offset: -0.123 ms
Remote clock offset: -0.159 ms

# Below is generated by plot.py at 2019-03-27 20:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 265.06 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 265.06 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.35%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 17:48:15
End at: 2019-03-27 17:48:45
Local clock offset: -0.356 ms
Remote clock offset: 0.619 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 467.26 Mbit/s
95th percentile per-packet one-way delay: 69.617 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 467.26 Mbit/s
95th percentile per-packet one-way delay: 69.617 ms
Loss rate: 0.40%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 18:19:08
End at: 2019-03-27 18:19:38
Local clock offset: 0.054 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 253.73 Mbit/s
95th percentile per-packet one-way delay: 99.547 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 253.73 Mbit/s
95th percentile per-packet one-way delay: 99.547 ms
Loss rate: 0.34%
Run 5: Report of TCP Vegas — Data Link

![Graphs showing throughput and delay](image-url)

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 253.59 Mbps)
  - Flow 1 egress (mean 253.73 Mbps)

- **Delay (ms):**
  - Flow 1 (95th percentile 99.55 ms)
Run 1: Statistics of Verus

Start at: 2019-03-27 16:27:33
End at: 2019-03-27 16:28:03
Local clock offset: -0.597 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 115.58 Mbit/s
95th percentile per-packet one-way delay: 72.447 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 115.58 Mbit/s
95th percentile per-packet one-way delay: 72.447 ms
Loss rate: 0.40%
Run 1: Report of Verus — Data Link

![Graphs showing throughput and packet delay over time for Flow 1 ingress and egress.]

Throughput (Mbps)

- **Flow 1 ingress** (mean 115.93 Mbps)
- **Flow 1 egress** (mean 115.58 Mbps)

Packet delay (ms)

- **Flow 1** (95th percentile 72.45 ms)
Run 2: Statistics of Verus

Start at: 2019-03-27 16:59:40
End at: 2019-03-27 17:00:10
Local clock offset: -0.26 ms
Remote clock offset: 0.256 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 181.25 Mbit/s
95th percentile per-packet one-way delay: 112.143 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 181.25 Mbit/s
95th percentile per-packet one-way delay: 112.143 ms
Loss rate: 0.74%
Run 2: Report of Verus — Data Link

![Graph showing throughput over time for Flow 1 ingress and egress.]

![Graph showing packet delay over time for Flow 1 with 95th percentile delay.]
Run 3: Statistics of Verus

Start at: 2019-03-27 17:31:02
End at: 2019-03-27 17:31:32
Local clock offset: 0.047 ms
Remote clock offset: 0.491 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 144.38 Mbit/s
95th percentile per-packet one-way delay: 90.868 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 144.38 Mbit/s
95th percentile per-packet one-way delay: 90.868 ms
Loss rate: 1.09%
Run 3: Report of Verus — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 144.70 Mbps)
- Flow 1 egress (mean 144.38 Mbps)

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

Flow 1 (95th percentile 90.87 ms)
Run 4: Statistics of Verus

Start at: 2019-03-27 18:01:50
End at: 2019-03-27 18:02:20
Local clock offset: -0.372 ms
Remote clock offset: 0.321 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 119.80 Mbit/s
95th percentile per-packet one-way delay: 78.157 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 119.80 Mbit/s
95th percentile per-packet one-way delay: 78.157 ms
Loss rate: 0.01%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

Start at: 2019-03-27 18:33:52
End at: 2019-03-27 18:34:22
Local clock offset: -0.355 ms
Remote clock offset: -0.394 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 152.14 Mbit/s
  95th percentile per-packet one-way delay: 211.818 ms
  Loss rate: 4.00%
-- Flow 1:
  Average throughput: 152.14 Mbit/s
  95th percentile per-packet one-way delay: 211.818 ms
  Loss rate: 4.00%
Run 5: Report of Verus — Data Link

![Graph showing throughput and packet delay over time for Flow 1 ingress and egress.](image)

Flow 1 ingress (mean 157.18 Mbit/s) — Flow 1 egress (mean 152.14 Mbit/s) — Flow 1 (95th percentile 211.82 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 16:32:02
End at: 2019-03-27 16:32:32
Local clock offset: 0.207 ms
Remote clock offset: -0.528 ms

# Below is generated by plot.py at 2019-03-27 20:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 160.14 Mbit/s
95th percentile per-packet one-way delay: 59.896 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 160.14 Mbit/s
95th percentile per-packet one-way delay: 59.896 ms
Loss rate: 0.76%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 17:04:05
End at: 2019-03-27 17:04:35
Local clock offset: -0.463 ms
Remote clock offset: 0.238 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 336.46 Mbit/s
95th percentile per-packet one-way delay: 72.894 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 336.46 Mbit/s
95th percentile per-packet one-way delay: 72.894 ms
Loss rate: 0.37%
Run 2: Report of PCC-Vivace — Data Link

![Graph showing throughput and delay over time for flow ingress and egress.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 336.38 Mbps)
  - Flow 1 egress (mean 336.46 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 72.89 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 17:35:16
End at: 2019-03-27 17:35:46
Local clock offset: -0.082 ms
Remote clock offset: 0.256 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 179.46 Mbit/s
  95th percentile per-packet one-way delay: 57.711 ms
  Loss rate: 0.70%
-- Flow 1:
  Average throughput: 179.46 Mbit/s
  95th percentile per-packet one-way delay: 57.711 ms
  Loss rate: 0.70%
Run 3: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 180.03 Mbit/s)**
- **Flow 1 egress (mean 179.46 Mbit/s)**

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

- **Flow 1 (95th percentile 57.71 ms)**
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 18:06:03
End at: 2019-03-27 18:06:33
Local clock offset: -0.131 ms
Remote clock offset: 0.375 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.75 Mbit/s
95th percentile per-packet one-way delay: 61.523 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 196.75 Mbit/s
95th percentile per-packet one-way delay: 61.523 ms
Loss rate: 0.72%
Run 4: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 197.41 Mbit/s)
- Flow 1 egress (mean 196.75 Mbit/s)

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

- Flow 1 (95th percentile 61.52 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 18:38:23
End at: 2019-03-27 18:38:54
Local clock offset: 0.343 ms
Remote clock offset: -0.487 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 186.98 Mbit/s
95th percentile per-packet one-way delay: 61.507 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 186.98 Mbit/s
95th percentile per-packet one-way delay: 61.507 ms
Loss rate: 0.67%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 16:11:19
End at: 2019-03-27 16:11:49
Local clock offset: -0.193 ms
Remote clock offset: -0.617 ms
Run 1: Report of WebRTC media — Data Link

![Graph showing throughput over time with two distinct peaks. The graph has a y-axis labeled 'Throughput (Mbps)' and an x-axis labeled 'Time (s)'. Two lines are plotted: one for 'Flow 1 ingress (mean 0.06 Mbps)' and another for 'Flow 1 egress (mean 0.06 Mbps)'.]

![Graph showing per packet one-way delay with a few data points. The graph has a y-axis labeled 'Per packet one way delay (ms)' and an x-axis labeled 'Time (s)'. One data point is marked as 'Flow 1 (95th percentile 58.20 ms)'.]
Run 2: Statistics of WebRTC media

Start at: 2019-03-27 16:43:08
End at: 2019-03-27 16:43:38
Local clock offset: 0.171 ms
Remote clock offset: 0.068 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.865 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.865 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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

![Graph 2: Packet End-to-End Delay (ms)](image2)
Run 3: Statistics of WebRTC media

Start at: 2019-03-27 17:15:25  
End at: 2019-03-27 17:15:55  
Local clock offset: -0.137 ms  
Remote clock offset: -0.43 ms  

# Below is generated by plot.py at 2019-03-27 20:38:06  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 61.503 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 61.503 ms  
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

![Graph showing throughput and delay over time for WebRTC media.]

The graph illustrates the throughput (in Mbps) and packet one-way delay (in ms) for two flows labeled as Flow 1 ingress and Flow 1 egress. The throughput fluctuates significantly during the test period, with a peak at 2.5 Mbps. The packet delay is relatively consistent, with a 99th percentile delay of 61.50 ms.
Run 4: Statistics of WebRTC media

Start at: 2019-03-27 17:45:58
End at: 2019-03-27 17:46:28
Local clock offset: 0.126 ms
Remote clock offset: 0.391 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.489 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

![Graph showing data link throughput and packet delay over time]

- Flow 1 ingress (mean 0.05 Mbps)
- Flow 1 egress (mean 0.05 Mbps)

![Graph showing packet delay distribution over time]

- Flow 1 (95th percentile 57.49 ms)
Run 5: Statistics of WebRTC media

Start at: 2019-03-27 18:16:51
End at: 2019-03-27 18:17:21
Local clock offset: -0.346 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-03-27 20:38:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.102 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.102 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 0.05 Mbit/s)
- Flow 1 egress (mean 0.05 Mbit/s)

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

- Flow 1 (90th percentile 57.10 ms)