Pantheon Report

Data path: GCE Iowa on ens4 (remote) → GCE London 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 4.15.0-1026-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 @ c80a283586bf7b0cc1fe08c69c8460d5648f81c
third_party/fillp @ d6da1459332fcee5f6963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d264fcd45e12e923f9
third_party/genericCC @ d015f8e594aa89e93b03213cedbfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6b77fc3cf
third_party/muses @ c3ee875824760ec5b2fd207fee166e1afe2170
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af9658fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8ac0d8e92b24f29f74ab
third_party/proto-quic @ 77961f1a82733a86b42f2bc8143eb983f3c4f
third_party/scream-reproduce @ f09918d1421aa3131bf1f1ff1964974e1da3dbd2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a6ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2badf06211435ae071a32f96b7d8c50587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Iowa to GCE London, 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) flow 1</th>
<th>mean 95th-%ile delay (ms) flow 1</th>
<th>mean loss rate (%) flow 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP BBR</td>
<td>5</td>
<td>593.66</td>
<td>135.84</td>
<td>0.94</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>314.85</td>
<td>53.84</td>
<td>0.33</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>637.35</td>
<td>124.55</td>
<td>0.46</td>
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<td>FillP</td>
<td>5</td>
<td>962.98</td>
<td>80.23</td>
<td>0.41</td>
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<td>FillP-Sheep</td>
<td>5</td>
<td>978.37</td>
<td>67.70</td>
<td>0.40</td>
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<td>Indigo</td>
<td>5</td>
<td>239.12</td>
<td>47.64</td>
<td>0.31</td>
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<td>Indigo-MusesC3</td>
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<td>659.63</td>
<td>80.54</td>
<td>0.37</td>
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<td>0.40</td>
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<td>Indigo-MusesT</td>
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<td>107.59</td>
<td>0.52</td>
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<td>LEDBAT</td>
<td>5</td>
<td>40.62</td>
<td>48.37</td>
<td>0.52</td>
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<td>PCC-Allegro</td>
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<td>463.71</td>
<td>142.59</td>
<td>2.15</td>
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<td>PCC-Expr</td>
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<td>350.73</td>
<td>133.86</td>
<td>1.24</td>
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<tr>
<td>QUIC Cubic</td>
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<td>57.86</td>
<td>47.12</td>
<td>0.55</td>
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<td>SCReAM</td>
<td>5</td>
<td>0.22</td>
<td>47.38</td>
<td>0.26</td>
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<td>47.93</td>
<td>0.34</td>
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<td>247.80</td>
<td>47.03</td>
<td>0.33</td>
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<td>TCP Vegas</td>
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<td>585.65</td>
<td>58.86</td>
<td>0.32</td>
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<tr>
<td>Verus</td>
<td>5</td>
<td>182.46</td>
<td>100.19</td>
<td>0.29</td>
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<td>PCC-Vivace</td>
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<td>60.99</td>
<td>0.41</td>
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<td>WebRTC media</td>
<td>4</td>
<td>0.05</td>
<td>47.42</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Local clock offset: -0.037 ms
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2019-01-19 19:04:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 585.09 Mbit/s
95th percentile per-packet one-way delay: 137.721 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 585.09 Mbit/s
95th percentile per-packet one-way delay: 137.721 ms
Loss rate: 1.21%
Run 1: Report of TCP BBR — Data Link

- Throughput (Mbps)
  - Flow 1 ingress (mean 590.39 Mbit/s)
  - Flow 1 egress (mean 585.09 Mbit/s)

- Per packet one way delay (ms)
  - Flow 1 (95th percentile 137.72 ms)
Run 2: Statistics of TCP BBR

Start at: 2019-01-19 16:53:19
End at: 2019-01-19 16:53:49
Local clock offset: 0.269 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2019-01-19 19:04:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.98 Mbit/s
95th percentile per-packet one-way delay: 141.087 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 578.98 Mbit/s
95th percentile per-packet one-way delay: 141.087 ms
Loss rate: 0.86%
Run 2: Report of TCP BBR — Data Link

![Throughput Plot](image1)

![Per-packet One-Way Delay Plot](image2)
Run 3: Statistics of TCP BBR

Start at: 2019-01-19 17:25:50
End at: 2019-01-19 17:26:20
Local clock offset: 0.428 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 634.57 Mbit/s
95th percentile per-packet one-way delay: 131.912 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 634.57 Mbit/s
95th percentile per-packet one-way delay: 131.912 ms
Loss rate: 0.63%
Run 3: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet delay over time for TCP BBR flow 1.]

- Flow 1 ingress (mean 636.59 Mbit/s)
- Flow 1 egress (mean 634.57 Mbit/s)

- Flow 1 (95th percentile 131.91 ms)
Run 4: Statistics of TCP BBR

Start at: 2019-01-19 17:57:52
End at: 2019-01-19 17:58:22
Local clock offset: 0.331 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 577.40 Mbit/s
95th percentile per-packet one-way delay: 132.120 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 577.40 Mbit/s
95th percentile per-packet one-way delay: 132.120 ms
Loss rate: 1.15%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2019-01-19 18:30:15
End at: 2019-01-19 18:30:45
Local clock offset: 0.077 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 592.26 Mbit/s
95th percentile per-packet one-way delay: 136.370 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 592.26 Mbit/s
95th percentile per-packet one-way delay: 136.370 ms
Loss rate: 0.86%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-01-19 16:25:05
End at: 2019-01-19 16:25:35
Local clock offset: -0.064 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 334.32 Mbit/s
95th percentile per-packet one-way delay: 51.023 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 334.32 Mbit/s
95th percentile per-packet one-way delay: 51.023 ms
Loss rate: 0.30%
Run 1: Report of Copa — Data Link

![Graph 1](image1.png)

**Flow 1 ingress (mean 334.28 Mbit/s)**

![Graph 2](image2.png)

**Flow 1 egress (mean 334.32 Mbit/s)**

![Graph 3](image3.png)

**Flow 1 (95th percentile 51.02 ms)**
Run 2: Statistics of Copa

Start at: 2019-01-19 16:56:46
End at: 2019-01-19 16:57:16
Local clock offset: -0.138 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 237.15 Mbit/s
95th percentile per-packet one-way delay: 52.934 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 237.15 Mbit/s
95th percentile per-packet one-way delay: 52.934 ms
Loss rate: 0.42%
Run 2: Report of Copa — Data Link

![Graph showing throughput over time with two lines representing flow ingress and egress](image)

![Graph showing packet loss over time with a line representing flow 1's 95th percentile delay](image)
Run 3: Statistics of Copa

Start at: 2019-01-19 17:29:18
End at: 2019-01-19 17:29:48
Local clock offset: 0.051 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-01-19 19:04:55
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 316.07 Mbit/s
  95th percentile per-packet one-way delay: 53.495 ms
  Loss rate: 0.32%
-- Flow 1:
  Average throughput: 316.07 Mbit/s
  95th percentile per-packet one-way delay: 53.495 ms
  Loss rate: 0.32%
Run 4: Statistics of Copa

Start at: 2019-01-19 18:01:14
End at: 2019-01-19 18:01:44
Local clock offset: -0.061 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-01-19 19:15:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 351.96 Mbit/s
95th percentile per-packet one-way delay: 50.094 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 351.96 Mbit/s
95th percentile per-packet one-way delay: 50.094 ms
Loss rate: 0.32%
Run 4: Report of Copa — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: Per-packet one-way delay (ms)]
Run 5: Statistics of Copa

Start at: 2019-01-19 18:33:32
End at: 2019-01-19 18:34:02
Local clock offset: 0.108 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-01-19 19:17:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 334.75 Mbit/s
95th percentile per-packet one-way delay: 61.630 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 334.75 Mbit/s
95th percentile per-packet one-way delay: 61.630 ms
Loss rate: 0.31%
Run 1: Statistics of TCP Cubic

Start at: 2019-01-19 16:10:44
End at: 2019-01-19 16:11:14
Local clock offset: -0.076 ms
Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2019-01-19 19:17:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 618.74 Mbit/s
95th percentile per-packet one-way delay: 101.325 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 618.74 Mbit/s
95th percentile per-packet one-way delay: 101.325 ms
Loss rate: 0.50%
Run 1: Report of TCP Cubic — Data Link

![Graph of Throughput vs Time]

- Flow 1 ingress (mean 619.91 Mbit/s)
- Flow 1 egress (mean 618.74 Mbit/s)

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

- Flow 1 (95th percentile 101.33 ms)
Run 2: Statistics of TCP Cubic

End at: 2019-01-19 16:43:07
Local clock offset: 0.286 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-01-19 19:17:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 632.32 Mbit/s
95th percentile per-packet one-way delay: 139.399 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 632.32 Mbit/s
95th percentile per-packet one-way delay: 139.399 ms
Loss rate: 0.42%
Run 2: Report of TCP Cubic — Data Link

![ThroughputGraph](image1)

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

Start at: 2019-01-19 17:14:42
End at: 2019-01-19 17:15:12
Local clock offset: 0.06 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-01-19 19:17:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 617.47 Mbit/s
95th percentile per-packet one-way delay: 103.816 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 617.47 Mbit/s
95th percentile per-packet one-way delay: 103.816 ms
Loss rate: 0.46%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2019-01-19 17:47:03
End at: 2019-01-19 17:47:33
Local clock offset: -0.037 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-01-19 19:17:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 668.38 Mbit/s
95th percentile per-packet one-way delay: 135.461 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 668.38 Mbit/s
95th percentile per-packet one-way delay: 135.461 ms
Loss rate: 0.42%
Run 4: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 669.05 Mbit/s)
- Flow 1 egress (mean 668.38 Mbit/s)

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

- Flow 1 (95th percentile 135.46 ms)
Run 5: Statistics of TCP Cubic

Start at: 2019-01-19 18:19:33
End at: 2019-01-19 18:20:03
Local clock offset: 0.052 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-19 19:17:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 649.82 Mbit/s
95th percentile per-packet one-way delay: 142.746 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 649.82 Mbit/s
95th percentile per-packet one-way delay: 142.746 ms
Loss rate: 0.49%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

End at: 2019-01-19 16:18:53
Local clock offset: 0.006 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-01-19 19:26:33
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 967.90 Mbit/s
  95th percentile per-packet one-way delay: 81.681 ms
  Loss rate: 0.41%
-- Flow 1:
  Average throughput: 967.90 Mbit/s
  95th percentile per-packet one-way delay: 81.681 ms
  Loss rate: 0.41%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2019-01-19 16:50:04
End at: 2019-01-19 16:50:34
Local clock offset: -0.093 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-01-19 19:39:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 966.85 Mbit/s
95th percentile per-packet one-way delay: 72.710 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 966.85 Mbit/s
95th percentile per-packet one-way delay: 72.710 ms
Loss rate: 0.35%
Run 2: Report of FillP — Data Link

![Graphs showing data link performance metrics.](image-url)
Run 3: Statistics of FillP

End at: 2019-01-19 17:22:50
Local clock offset: 0.086 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-01-19 19:40:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 913.55 Mbit/s
95th percentile per-packet one-way delay: 81.816 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 913.55 Mbit/s
95th percentile per-packet one-way delay: 81.816 ms
Loss rate: 0.03%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FILLP

Start at: 2019-01-19 17:54:41
End at: 2019-01-19 17:55:11
Local clock offset: -0.442 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2019-01-19 19:41:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 988.21 Mbit/s
95th percentile per-packet one-way delay: 77.359 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 988.21 Mbit/s
95th percentile per-packet one-way delay: 77.359 ms
Loss rate: 0.84%
Run 4: Report of FillP — Data Link

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

- Flow 1 ingress (mean 993.43 Mbps)
- Flow 1 egress (mean 988.21 Mbps)

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

- Flow 1 (95th percentile 77.36 ms)
Run 5: Statistics of FillP

Start at: 2019-01-19 18:27:05
End at: 2019-01-19 18:27:35
Local clock offset: 0.075 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-01-19 19:41:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 978.39 Mbit/s
95th percentile per-packet one-way delay: 87.601 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 978.39 Mbit/s
95th percentile per-packet one-way delay: 87.601 ms
Loss rate: 0.42%
Run 5: Report of FillP — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress (mean 979.37 Mbps)**
- **Flow 1 egress (mean 978.39 Mbps)**

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

- **Flow 1 (95th percentile 87.60 ms)**
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-19 16:07:48
End at: 2019-01-19 16:08:18
Local clock offset: 0.299 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-19 19:41:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 981.11 Mbit/s
95th percentile per-packet one-way delay: 75.952 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 981.11 Mbit/s
95th percentile per-packet one-way delay: 75.952 ms
Loss rate: 0.37%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

End at: 2019-01-19 16:40:14
Local clock offset: -0.093 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-01-19 19:41:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 961.42 Mbit/s
95th percentile per-packet one-way delay: 71.450 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 961.42 Mbit/s
95th percentile per-packet one-way delay: 71.450 ms
Loss rate: 0.40%
Run 2: Report of FillP-Sheep — Data Link

![Graph of throughput and delay over time]

- Flow 1 ingress (mean 962.32 Mbit/s)
- Flow 1 egress (mean 961.42 Mbit/s)

- Flow 1 (95th percentile 71.45 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-19 17:11:42
End at: 2019-01-19 17:12:12
Local clock offset: 0.003 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-01-19 19:42:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 958.82 Mbit/s
95th percentile per-packet one-way delay: 69.921 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 958.82 Mbit/s
95th percentile per-packet one-way delay: 69.921 ms
Loss rate: 0.34%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-19 17:44:04
End at: 2019-01-19 17:44:34
Local clock offset: 0.004 ms
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2019-01-19 19:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 987.96 Mbit/s
95th percentile per-packet one-way delay: 65.490 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 987.96 Mbit/s
95th percentile per-packet one-way delay: 65.490 ms
Loss rate: 0.34%
Run 4: Report of FillP-Sheep — Data Link

![Graph of Throughput and Delay](image1)

Flow 1 ingress (mean 988.18 Mbit/s)  
Flow 1 egress (mean 987.96 Mbit/s)

![Graph of Per-Packet Delay](image2)

Flow 1 (95th percentile 65.49 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-19 18:16:29
End at: 2019-01-19 18:16:59
Local clock offset: 0.054 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1002.53 Mbit/s
95th percentile per-packet one-way delay: 55.677 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 1002.53 Mbit/s
95th percentile per-packet one-way delay: 55.677 ms
Loss rate: 0.54%
Run 5: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1004.77 Mbit/s)  Flow 1 egress (mean 1002.53 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 55.68 ms)
Run 1: Statistics of Indigo

Start at: 2019-01-19 16:27:51
End at: 2019-01-19 16:28:21
Local clock offset: -0.059 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 239.78 Mbit/s
95th percentile per-packet one-way delay: 47.595 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 239.78 Mbit/s
95th percentile per-packet one-way delay: 47.595 ms
Loss rate: 0.31%
Run 1: Report of Indigo — Data Link

![Graph of Throughput vs Time for Flow Ingress and Egress]

![Graph of Packet One-Way Delay vs Time for Flow 1 (95th percentile: 47.59 ms)]
Run 2: Statistics of Indigo

End at: 2019-01-19 16:59:58
Local clock offset: -0.029 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 240.97 Mbit/s
95th percentile per-packet one-way delay: 48.096 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 240.97 Mbit/s
95th percentile per-packet one-way delay: 48.096 ms
Loss rate: 0.29%
Run 2: Report of Indigo — Data Link

![Graph of Throughput vs Time]

- **Flow 1 ingress (mean 240.91 Mbit/s)**
- **Flow 1 egress (mean 240.97 Mbit/s)**

![Graph of End-to-End Delay vs Time]

- **Flow 1 (95th percentile 48.10 ms)**
Run 3: Statistics of Indigo

Start at: 2019-01-19 17:32:06
End at: 2019-01-19 17:32:36
Local clock offset: -0.376 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 236.81 Mbit/s
95th percentile per-packet one-way delay: 47.471 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 236.81 Mbit/s
95th percentile per-packet one-way delay: 47.471 ms
Loss rate: 0.33%
Run 3: Report of Indigo — Data Link

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

Start at: 2019-01-19 18:04:05
End at: 2019-01-19 18:04:35
Local clock offset: 0.001 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 240.39 Mbit/s
95th percentile per-packet one-way delay: 47.920 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 240.39 Mbit/s
95th percentile per-packet one-way delay: 47.920 ms
Loss rate: 0.32%
Run 4: Report of Indigo — Data Link

![Graph 1: Throughput vs Time]

![Graph 2: Packet Delay vs Time]

Flow 1 ingress (mean 240.38 Mbit/s)  
Flow 1 egress (mean 240.39 Mbit/s)

Flow 1 (95th percentile 47.92 ms)
Run 5: Statistics of Indigo

Start at: 2019-01-19 18:36:19  
End at: 2019-01-19 18:36:49  
Local clock offset: 0.082 ms  
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-01-19 20:04:48  
# Datalink statistics
-- Total of 1 flow:
Average throughput: 237.66 Mbit/s
95th percentile per-packet one-way delay: 47.137 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 237.66 Mbit/s
95th percentile per-packet one-way delay: 47.137 ms
Loss rate: 0.31%
Run 5: Report of Indigo — Data Link

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 237.67 Mbps)
  - Flow 1 egress (mean 237.66 Mbps)

- **Packet One-Way Delay (ms):**
  - Flow 1 (95th percentile 47.14 ms)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-19 15:59:08
End at: 2019-01-19 15:59:38
Local clock offset: ~0.002 ms
Remote clock offset: ~0.078 ms
Run 1: Report of Indigo-MusesC3 — Data Link

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

- Flow 1 ingress (mean 479.66 Mbit/s)
- Flow 1 egress (mean 476.81 Mbit/s)

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

- Flow 1 (95th percentile 85.75 ms)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-19 16:30:56
End at: 2019-01-19 16:31:26
Local clock offset: -0.059 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 679.18 Mbit/s
95th percentile per-packet one-way delay: 84.923 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 679.18 Mbit/s
95th percentile per-packet one-way delay: 84.923 ms
Loss rate: 0.36%
Run 2: Report of Indigo-MusesC3 — Data Link
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-19 17:02:47
End at: 2019-01-19 17:03:17
Local clock offset: 0.334 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 657.83 Mbit/s
95th percentile per-packet one-way delay: 91.500 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 657.83 Mbit/s
95th percentile per-packet one-way delay: 91.500 ms
Loss rate: 0.38%
Run 3: Report of Indigo-MusesC3 — Data Link

![Graph of Throughput vs Time](image1)

- Flow 1 ingress (mean 658.14 Mbit/s)
- Flow 1 egress (mean 657.83 Mbit/s)

![Graph of Per Packet One-Way Delay vs Time](image2)

- Flow 1 (95th percentile 91.50 ms)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-19 17:35:13
End at: 2019-01-19 17:35:43
Local clock offset: 0.353 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 644.86 Mbit/s
95th percentile per-packet one-way delay: 72.598 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 644.86 Mbit/s
95th percentile per-packet one-way delay: 72.598 ms
Loss rate: 0.37%
Run 4: Report of Indigo-MusesC3 — Data Link

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

*Legend:*
- Dashed line: Flow 1 ingress (mean 645.15 Mbit/s)
- Solid line: Flow 1 egress (mean 644.86 Mbit/s)

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

*Legend:*
- Solid line: Flow 1 (95th percentile 72.60 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-19 18:07:15
End at: 2019-01-19 18:07:45
Local clock offset: 0.003 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 656.67 Mbit/s
95th percentile per-packet one-way delay: 73.152 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 656.67 Mbit/s
95th percentile per-packet one-way delay: 73.152 ms
Loss rate: 0.38%
Run 5: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 656.99 Mbit/s)  Flow 1 egress (mean 656.67 Mbit/s)

Packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 73.15 ms)
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-19 16:15:01
End at: 2019-01-19 16:15:31
Local clock offset: -0.044 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2019-01-19 20:04:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 638.65 Mbit/s
95th percentile per-packet one-way delay: 84.296 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 638.65 Mbit/s
95th percentile per-packet one-way delay: 84.296 ms
Loss rate: 0.38%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

End at: 2019-01-19 16:47:18
Local clock offset: -0.116 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-01-19 20:05:11
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 651.06 Mbit/s
  95th percentile per-packet one-way delay: 88.700 ms
  Loss rate: 0.44%
-- Flow 1:
  Average throughput: 651.06 Mbit/s
  95th percentile per-packet one-way delay: 88.700 ms
  Loss rate: 0.44%
Run 2: Report of Indigo-MusesC5 — Data Link

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

- Flow 1 ingress (mean 651.75 Mbit/s)
- Flow 1 egress (mean 651.06 Mbit/s)

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

- Flow 1 (95th percentile 88.70 ms)
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-19 17:19:02
End at: 2019-01-19 17:19:32
Local clock offset: 0.041 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2019-01-19 20:08:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 667.54 Mbit/s
95th percentile per-packet one-way delay: 81.366 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 667.54 Mbit/s
95th percentile per-packet one-way delay: 81.366 ms
Loss rate: 0.36%
Run 3: Report of Indigo-MusesC5 — Data Link

![Graph of Throughput (kb/s) over time for Flow 1 ingress (mean 668.08 Mbit/s) and Flow 1 egress (mean 667.54 Mbit/s).](image1)

![Graph of Per-packet one-way delay (ms) over time for Flow 1 (95th percentile 81.37 ms).](image2)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-19 17:51:22
End at: 2019-01-19 17:51:52
Local clock offset: -0.018 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-01-19 20:12:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 643.97 Mbit/s
95th percentile per-packet one-way delay: 82.941 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 643.97 Mbit/s
95th percentile per-packet one-way delay: 82.941 ms
Loss rate: 0.41%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 644.49 Mbit/s)
- Flow 1 egress (mean 643.97 Mbit/s)

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

Flow 1 (95th percentile 82.94 ms)
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-19 18:23:54
End at: 2019-01-19 18:24:24
Local clock offset: 0.051 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 669.85 Mbit/s
95th percentile per-packet one-way delay: 74.875 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 669.85 Mbit/s
95th percentile per-packet one-way delay: 74.875 ms
Loss rate: 0.42%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

End at: 2019-01-19 16:14:02
Local clock offset: -0.035 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 383.67 Mbit/s
95th percentile per-packet one-way delay: 75.739 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 383.67 Mbit/s
95th percentile per-packet one-way delay: 75.739 ms
Loss rate: 0.59%
Run 1: Report of Indigo-MusesD — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 384.66 Mbit/s)  Flow 1 egress (mean 383.67 Mbit/s)

Delay per packet (ms)

Time (s)

Flow 1 (95th percentile 75.74 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-19 16:45:22
End at: 2019-01-19 16:45:52
Local clock offset: -0.123 ms
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 415.98 Mbit/s
95th percentile per-packet one-way delay: 74.149 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 415.98 Mbit/s
95th percentile per-packet one-way delay: 74.149 ms
Loss rate: 0.47%
Run 2: Report of Indigo-MusesD — Data Link

![Data Link Throughput Graph]

- Flow 1 ingress (mean 416.50 Mbit/s)
- Flow 1 egress (mean 415.98 Mbit/s)

![Data Link Delay Graph]

- Flow 1 (95th percentile 74.15 ms)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-19 17:17:35
End at: 2019-01-19 17:18:05
Local clock offset: 0.063 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 392.21 Mbit/s
95th percentile per-packet one-way delay: 81.408 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 392.21 Mbit/s
95th percentile per-packet one-way delay: 81.408 ms
Loss rate: 0.38%
Run 3: Report of Indigo-MusesD — Data Link

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

- Flow 1 ingress (mean 392.39 Mbit/s)
- Flow 1 egress (mean 392.21 Mbit/s)

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

- Flow 1 (95th percentile 81.41 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-19 17:49:54
End at: 2019-01-19 17:50:24
Local clock offset: 0.325 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 412.24 Mbit/s
95th percentile per-packet one-way delay: 76.635 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 412.24 Mbit/s
95th percentile per-packet one-way delay: 76.635 ms
Loss rate: 0.52%
Run 4: Report of Indigo-MusesD — Data Link
Run 5: Statistics of Indigo-MusesD

Local clock offset: 0.101 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-01-19 20:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 412.60 Mbit/s
95th percentile per-packet one-way delay: 78.629 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 412.60 Mbit/s
95th percentile per-packet one-way delay: 78.629 ms
Loss rate: 0.51%
Run 5: Report of Indigo-MusesD — Data Link

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

- **Flow 1 ingress (mean 413.38 Mbit/s)**
- **Flow 1 egress (mean 412.60 Mbit/s)**

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

- **Flow 1 (95th percentile 78.63 ms)**

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Run 1: Statistics of Indigo-MusesT

End at: 2019-01-19 16:23:56
Local clock offset: -0.087 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-01-19 20:22:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 687.29 Mbit/s
95th percentile per-packet one-way delay: 109.873 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 687.29 Mbit/s
95th percentile per-packet one-way delay: 109.873 ms
Loss rate: 0.58%
Run 1: Report of Indigo-MusesT — Data Link

![Graph of Throughput](image1)

- **Flow 1 ingress (mean 688.96 Mbit/s)**
- **Flow 1 egress (mean 687.29 Mbit/s)**

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

- **Flow 1 (95th percentile 109.87 ms)**
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-19 16:55:02
Local clock offset: -0.075 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2019-01-19 20:25:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 669.68 Mbit/s
95th percentile per-packet one-way delay: 112.602 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 669.68 Mbit/s
95th percentile per-packet one-way delay: 112.602 ms
Loss rate: 0.48%
Run 2: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 670.81 Mbit/s)
- Flow 1 egress (mean 669.68 Mbit/s)

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

- Flow 1 (95th percentile 112.60 ms)
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-19 17:27:37
End at: 2019-01-19 17:28:07
Local clock offset: 0.431 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-01-19 20:25:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 665.30 Mbit/s
95th percentile per-packet one-way delay: 107.279 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 665.30 Mbit/s
95th percentile per-packet one-way delay: 107.279 ms
Loss rate: 0.48%
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-19 17:59:32
End at: 2019-01-19 18:00:02
Local clock offset: -0.045 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 695.87 Mbit/s
95th percentile per-packet one-way delay: 98.435 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 695.87 Mbit/s
95th percentile per-packet one-way delay: 98.435 ms
Loss rate: 0.53%
Run 4: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingress (mean 697.23 Mbps)**
- **Flow 1 egress (mean 695.87 Mbps)**

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

- **Flow 1 (95th percentile 98.44 ms)**
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-19 18:31:54
End at: 2019-01-19 18:32:24
Local clock offset: 0.063 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 684.40 Mbit/s
95th percentile per-packet one-way delay: 109.780 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 684.40 Mbit/s
95th percentile per-packet one-way delay: 109.780 ms
Loss rate: 0.54%
Run 5: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 686.02 Mbit/s)
- Flow 1 egress (mean 684.40 Mbit/s)

Flow 1 (95th percentile 109.78 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-01-19 16:00:23
End at: 2019-01-19 16:00:53
Local clock offset: -0.464 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.97 Mbit/s
95th percentile per-packet one-way delay: 48.170 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 40.97 Mbit/s
95th percentile per-packet one-way delay: 48.170 ms
Loss rate: 0.63%
Run 1: Report of LEDBAT — Data Link

![Graph 1: Throughput vs. Time]

- **Flow 1 ingress (mean 41.10 Mbit/s)**
- **Flow 1 egress (mean 40.97 Mbit/s)**

![Graph 2: Network Latency vs. Time]

- **Flow 1 (95th percentile 48.17 ms)**
Run 2: Statistics of LEDBAT

Start at: 2019-01-19 16:32:34
End at: 2019-01-19 16:33:04
Local clock offset: -0.073 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.90 Mbit/s
95th percentile per-packet one-way delay: 48.524 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 40.90 Mbit/s
95th percentile per-packet one-way delay: 48.524 ms
Loss rate: 0.63%
Run 2: Report of LEDBAT — Data Link

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

- **Flow 1 ingress** (mean 41.03 Mbit/s)
- **Flow 1 egress** (mean 40.90 Mbit/s)

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

- **Flow 1** (90th percentile 48.52 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-01-19 17:04:29
End at: 2019-01-19 17:04:59
Local clock offset: 0.376 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.96 Mbit/s
95th percentile per-packet one-way delay: 48.909 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 41.96 Mbit/s
95th percentile per-packet one-way delay: 48.909 ms
Loss rate: 0.62%
Run 3: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 42.09 Mbps)**
- **Flow 1 egress (mean 41.96 Mbps)**

![Graph 2: Packet Round-trip delay (ms)](image2)

- **Flow 1 95th percentile 48.91 ms**

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Run 4: Statistics of LEdbAT

Start at: 2019-01-19 17:36:52
End at: 2019-01-19 17:37:22
Local clock offset: 0.342 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.93 Mbit/s
95th percentile per-packet one-way delay: 48.634 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 41.93 Mbit/s
95th percentile per-packet one-way delay: 48.634 ms
Loss rate: 0.62%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2019-01-19 18:08:59
End at: 2019-01-19 18:09:29
Local clock offset: -0.387 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-01-19 20:26:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.33 Mbit/s
95th percentile per-packet one-way delay: 47.625 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 37.33 Mbit/s
95th percentile per-packet one-way delay: 47.625 ms
Loss rate: 0.12%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-19 16:04:58
End at: 2019-01-19 16:05:28
Local clock offset: -0.05 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-01-19 20:33:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 444.73 Mbit/s
95th percentile per-packet one-way delay: 90.312 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 444.73 Mbit/s
95th percentile per-packet one-way delay: 90.312 ms
Loss rate: 0.54%
Run 1: Report of PCC-Allegro — Data Link

![Graph showing throughput and packet delay over time]

- **Flow 1 ingress (mean 445.70 Mbit/s)**
- **Flow 1 egress (mean 444.73 Mbit/s)**

![Graph showing packet delay over time]

- **Flow 1 (95th percentile 90.31 ms)**
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-19 16:36:55
End at: 2019-01-19 16:37:25
Local clock offset: -0.15 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-01-19 20:36:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 469.30 Mbit/s
95th percentile per-packet one-way delay: 161.245 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 469.30 Mbit/s
95th percentile per-packet one-way delay: 161.245 ms
Loss rate: 4.38%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-19 17:08:48
End at: 2019-01-19 17:09:18
Local clock offset: -0.016 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2019-01-19 20:37:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 476.49 Mbit/s
95th percentile per-packet one-way delay: 150.554 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 476.49 Mbit/s
95th percentile per-packet one-way delay: 150.554 ms
Loss rate: 1.61%
Run 3: Report of PCC-Allegro — Data Link

\[ \text{Flow 1 ingress (mean 482.76 Mbit/s)} \quad \text{Flow 1 egress (mean 476.49 Mbit/s)} \]

\[ \text{Flow 1 (95th percentile 150.55 ms)} \]
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-19 17:41:14
End at: 2019-01-19 17:41:44
Local clock offset: -0.031 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2019-01-19 20:41:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 444.42 Mbit/s
95th percentile per-packet one-way delay: 155.220 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 444.42 Mbit/s
95th percentile per-packet one-way delay: 155.220 ms
Loss rate: 2.00%
Run 4: Report of PCC-Allegro — Data Link

![Graph showing network performance metrics](image)
Run 5: Statistics of PCC-Allegro

End at: 2019-01-19 18:14:02
Local clock offset: -0.289 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-01-19 20:45:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 483.63 Mbit/s
95th percentile per-packet one-way delay: 155.600 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 483.63 Mbit/s
95th percentile per-packet one-way delay: 155.600 ms
Loss rate: 2.23%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2019-01-19 16:01:35
End at: 2019-01-19 16:02:05
Local clock offset: -0.011 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2019-01-19 20:45:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.38 Mbit/s
95th percentile per-packet one-way delay: 134.098 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 349.38 Mbit/s
95th percentile per-packet one-way delay: 134.098 ms
Loss rate: 0.91%
Run 1: Report of PCC-Expr — Data Link

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

- **Flow 1 ingress (mean 351.43 Mbit/s)**
- **Flow 1 egress (mean 349.38 Mbit/s)**

- **Flow 1 (95th percentile 134.10 ms)**
Run 2: Statistics of PCC-Expr

Start at: 2019-01-19 16:33:45
End at: 2019-01-19 16:34:15
Local clock offset: 0.281 ms
Remote clock offset: 0.112 ms

# Below is generated by plot.py at 2019-01-19 20:45:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 353.53 Mbit/s
95th percentile per-packet one-way delay: 133.940 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 353.53 Mbit/s
95th percentile per-packet one-way delay: 133.940 ms
Loss rate: 2.25%
Run 2: Report of PCC-Expr — Data Link

![Graph](image)

- **Flow 1 ingress (mean 360.51 Mbit/s)**
- **Flow 1 egress (mean 353.53 Mbit/s)**

![Graph](image)

- **Flow 1 (95th percentile 133.94 ms)**
Run 3: Statistics of PCC-Expr

Start at: 2019-01-19 17:05:41
End at: 2019-01-19 17:06:11
Local clock offset: -0.39 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2019-01-19 20:45:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 348.48 Mbit/s
95th percentile per-packet one-way delay: 130.157 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 348.48 Mbit/s
95th percentile per-packet one-way delay: 130.157 ms
Loss rate: 0.82%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2019-01-19 17:38:04
End at: 2019-01-19 17:38:34
Local clock offset: 0.37 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-01-19 20:47:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.42 Mbit/s
95th percentile per-packet one-way delay: 131.371 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 349.42 Mbit/s
95th percentile per-packet one-way delay: 131.371 ms
Loss rate: 0.69%
Run 4: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 350.71 Mbit/s)
- Flow 1 egress (mean 349.42 Mbit/s)

![Graph showing per packet end-to-end delay over time](image)

- Flow 1 (95th percentile 131.37 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-01-19 18:10:11
End at: 2019-01-19 18:10:41
Local clock offset: -0.333 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.86 Mbit/s
95th percentile per-packet one-way delay: 139.749 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 352.86 Mbit/s
95th percentile per-packet one-way delay: 139.749 ms
Loss rate: 1.54%
Run 5: Report of PCC-Expr — Data Link

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

- **Flow 1 ingress (mean 357.27 Mbps)**
- **Flow 1 egress (mean 352.86 Mbps)**

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

- **Flow 1 (95th percentile 139.75 ms)**
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-19 16:06:41
End at: 2019-01-19 16:07:11
Local clock offset: -0.04 ms
Remote clock offset: -0.097 ms
Run 1: Report of QUIC Cubic — Data Link

![Graph of Throughput vs Time](image1)

- **Flow 1 ingress (mean 0.01 Mbit/s)**
- **Flow 1 egress (mean 0.01 Mbit/s)**

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

- **Flow 1 (95th percentile 47.83 ms)**

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Run 2: Statistics of QUIC Cubic

Start at: 2019-01-19 16:38:33
End at: 2019-01-19 16:39:03
Local clock offset: 0.258 ms
Remote clock offset: 0.051 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 47.601 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 47.601 ms
Loss rate: 0.50%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-19 17:10:31
End at: 2019-01-19 17:11:01
Local clock offset: -0.032 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.77 Mbit/s
95th percentile per-packet one-way delay: 47.327 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 48.77 Mbit/s
95th percentile per-packet one-way delay: 47.327 ms
Loss rate: 0.57%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-19 17:42:54
End at: 2019-01-19 17:43:24
Local clock offset: -0.368 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.25 Mbit/s
95th percentile per-packet one-way delay: 46.160 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 54.25 Mbit/s
95th percentile per-packet one-way delay: 46.160 ms
Loss rate: 0.60%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-19 18:15:18
End at: 2019-01-19 18:15:48
Local clock offset: 0.053 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.25 Mbit/s
95th percentile per-packet one-way delay: 47.409 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 63.25 Mbit/s
95th percentile per-packet one-way delay: 47.409 ms
Loss rate: 0.55%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-01-19 16:09:37
End at: 2019-01-19 16:10:07
Local clock offset: -0.058 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.544 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.544 ms
Loss rate: 0.25%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2019-01-19 16:41:29
End at: 2019-01-19 16:41:59
Local clock offset: -0.06 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.360 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.360 ms
  Loss rate: 0.26%
Run 2: Report of SCReAM — Data Link

![Graph showing throughput and packet delay over time](image-url)
Run 3: Statistics of SCReAM

Start at: 2019-01-19 17:13:34
End at: 2019-01-19 17:14:04
Local clock offset: 0.036 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.596 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.596 ms
  Loss rate: 0.26%
Run 3: Report of SCReAM — Data Link

[Graph of Throughput vs Time]

[Graph of Per Packet One-Way Delay vs Time]

*Flow 1 (95th percentile 47.60 ms)*
Run 4: Statistics of SCReAM

Start at: 2019-01-19 17:45:56
End at: 2019-01-19 17:46:26
Local clock offset: 0.375 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.001 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.001 ms
Loss rate: 0.26%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-01-19 18:18:25
End at: 2019-01-19 18:18:55
Local clock offset: 0.066 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.399 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.399 ms
  Loss rate: 0.26%
Run 5: Report of SCReAM — Data Link

![Graph of Throughput](image1)

Throughput (Mbps) vs. Time (s)

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

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

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

- Flow 1 (95th percentile 47.40 ms)
Run 1: Statistics of Sprout

Start at: 2019-01-19 16:26:43
Local clock offset: -0.042 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 47.890 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 47.890 ms
Loss rate: 0.35%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-01-19 16:58:20
End at: 2019-01-19 16:58:50
Local clock offset: -0.045 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 47.974 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 47.974 ms
Loss rate: 0.35%
Run 2: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 9.69 Mbps)**
- **Flow 1 egress (mean 9.69 Mbps)**

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

- **Flow 1 (99th percentile 47.97 ms)**
Run 3: Statistics of Sprout

Start at: 2019-01-19 17:30:58
End at: 2019-01-19 17:31:28
Local clock offset: 0.37 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 48.418 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 48.418 ms
Loss rate: 0.35%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2019-01-19 18:02:56  
End at: 2019-01-19 18:03:26  
Local clock offset: -0.027 ms  
Remote clock offset: -0.043 ms  

# Below is generated by plot.py at 2019-01-19 20:51:02  
# Datalink statistics

-- Total of 1 flow:  
Average throughput: 9.69 Mbit/s  
95th percentile per-packet one-way delay: 47.141 ms  
Loss rate: 0.29%  

-- Flow 1:  
Average throughput: 9.69 Mbit/s  
95th percentile per-packet one-way delay: 47.141 ms  
Loss rate: 0.29%
Run 4: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 9.66 Mbps)**
- **Flow 1 egress (mean 9.66 Mbps)**

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

- **Flow 1 (90th percentile 47.14 ms)**
Run 5: Statistics of Sprout

Start at: 2019-01-19 18:35:11
End at: 2019-01-19 18:35:41
Local clock offset: 0.468 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-01-19 20:51:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 48.217 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 48.217 ms
Loss rate: 0.35%
Run 5: Report of Sprout — Data Link

[Graphs showing throughput and delay over time]
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-19 16:03:21
End at: 2019-01-19 16:03:51
Local clock offset: -0.03 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-01-19 20:51:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 244.06 Mbit/s
95th percentile per-packet one-way delay: 47.615 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 244.06 Mbit/s
95th percentile per-packet one-way delay: 47.615 ms
Loss rate: 0.34%
Run 1: Report of TaoVA-100x — Data Link

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

- **Flow 1 ingress (mean 244.11 Mbit/s)**
- **Flow 1 egress (mean 244.06 Mbit/s)**

![Graph of one-way delay over time](image)

- **Flow 1 (95th percentile 47.62 ms)**
Run 2: Statistics of TaoVA-100x

Start at: 2019-01-19 16:35:24
End at: 2019-01-19 16:35:54
Local clock offset: -0.039 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-01-19 20:51:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 249.86 Mbit/s
95th percentile per-packet one-way delay: 47.405 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 249.86 Mbit/s
95th percentile per-packet one-way delay: 47.405 ms
Loss rate: 0.32%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2019-01-19 17:07:19
End at: 2019-01-19 17:07:49
Local clock offset: -0.34 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-19 20:51:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.84 Mbit/s
95th percentile per-packet one-way delay: 46.586 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 247.84 Mbit/s
95th percentile per-packet one-way delay: 46.586 ms
Loss rate: 0.33%
Run 3: Report of TaoVA-100x — Data Link

![Graph 1](image1)

![Graph 2](image2)
Run 4: Statistics of TaoVA-100x

Start at: 2019-01-19 17:39:43
End at: 2019-01-19 17:40:13
Local clock offset: -0.008 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-01-19 20:51:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.70 Mbit/s
95th percentile per-packet one-way delay: 47.006 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 248.70 Mbit/s
95th percentile per-packet one-way delay: 47.006 ms
Loss rate: 0.32%
Run 4: Report of TaoVA-100x — Data Link

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

- **Flow 1 ingress** (mean 248.70 Mbit/s)
- **Flow 1 egress** (mean 248.70 Mbit/s)

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

- **Flow 1** (95th percentile 47.01 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2019-01-19 18:11:58
End at: 2019-01-19 18:12:28
Local clock offset: 0.027 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-01-19 20:52:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.53 Mbit/s
95th percentile per-packet one-way delay: 46.543 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 248.53 Mbit/s
95th percentile per-packet one-way delay: 46.543 ms
Loss rate: 0.33%
Run 5: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 248.57 Mbit/s)
- Flow 1 egress (mean 248.53 Mbit/s)

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

- Flow 1 (95th percentile 46.54 ms)
Run 1: Statistics of TCP Vegas

End at: 2019-01-19 16:29:50
Local clock offset: -0.097 ms
Remote clock offset: 0.078 ms

# Below is generated by plot.py at 2019-01-19 20:58:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 586.00 Mbit/s
95th percentile per-packet one-way delay: 49.292 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 586.00 Mbit/s
95th percentile per-packet one-way delay: 49.292 ms
Loss rate: 0.33%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2019-01-19 17:01:03
End at: 2019-01-19 17:01:33
Local clock offset: -0.013 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-01-19 21:01:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 584.00 Mbit/s
95th percentile per-packet one-way delay: 51.265 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 584.00 Mbit/s
95th percentile per-packet one-way delay: 51.265 ms
Loss rate: 0.33%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2019-01-19 17:33:36
End at: 2019-01-19 17:34:06
Local clock offset: -0.04 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-01-19 21:03:13
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 590.38 Mbit/s
  95th percentile per-packet one-way delay: 69.504 ms
  Loss rate: 0.33%
-- Flow 1:
  Average throughput: 590.38 Mbit/s
  95th percentile per-packet one-way delay: 69.504 ms
  Loss rate: 0.33%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-01-19 18:05:35
End at: 2019-01-19 18:06:05
Local clock offset: 0.304 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2019-01-19 21:03:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 566.58 Mbit/s
95th percentile per-packet one-way delay: 50.781 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 566.58 Mbit/s
95th percentile per-packet one-way delay: 50.781 ms
Loss rate: 0.32%
Run 4: Report of TCP Vegas — Data Link

![Throughput and Delay Graphs]
Run 5: Statistics of TCP Vegas

End at: 2019-01-19 18:38:18
Local clock offset: 0.074 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-01-19 21:04:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 601.30 Mbit/s
95th percentile per-packet one-way delay: 73.471 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 601.30 Mbit/s
95th percentile per-packet one-way delay: 73.471 ms
Loss rate: 0.31%
Run 5: Report of TCP Vegas — Data Link

Graph 1: Throughput (Mbps) over Time (s)
- Flow 1 ingress (mean 601.30 Mbps)
- Flow 1 egress (mean 601.30 Mbps)

Graph 2: Per-packet one-way delay (ms) over Time (s)
- Flow 1 (95th percentile 73.47 ms)
Run 1: Statistics of Verus

Start at: 2019-01-19 16:20:21
End at: 2019-01-19 16:20:51
Local clock offset: -0.054 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-01-19 21:04:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 187.31 Mbit/s
95th percentile per-packet one-way delay: 84.487 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 187.31 Mbit/s
95th percentile per-packet one-way delay: 84.487 ms
Loss rate: 0.12%
Run 1: Report of Verus — Data Link
Run 2: Statistics of Verus

Start at: 2019-01-19 16:51:49
End at: 2019-01-19 16:52:19
Local clock offset: -0.098 ms
Remote clock offset: 0.121 ms

# Below is generated by plot.py at 2019-01-19 21:04:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 185.48 Mbit/s
95th percentile per-packet one-way delay: 143.515 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 185.48 Mbit/s
95th percentile per-packet one-way delay: 143.515 ms
Loss rate: 0.41%
Run 2: Report of Verus — Data Link

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

Flow 1 ingress (mean 186.25 Mbit/s)  Flow 1 egress (mean 185.48 Mbit/s)

![Graph 2: End-to-End Delay vs. Time](image2)

Flow 1 (95th percentile 143.51 ms)
Run 3: Statistics of Verus

Start at: 2019-01-19 17:24:15
End at: 2019-01-19 17:24:45
Local clock offset: 0.063 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-01-19 21:04:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 189.64 Mbit/s
95th percentile per-packet one-way delay: 85.326 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 189.64 Mbit/s
95th percentile per-packet one-way delay: 85.326 ms
Loss rate: 0.01%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2019-01-19 17:56:28
End at: 2019-01-19 17:56:58
Local clock offset: -0.038 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-01-19 21:05:50
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 173.24 Mbit/s
  95th percentile per-packet one-way delay: 86.314 ms
  Loss rate: 0.51%
-- Flow 1:
  Average throughput: 173.24 Mbit/s
  95th percentile per-packet one-way delay: 86.314 ms
  Loss rate: 0.51%
Run 4: Report of Verus — Data Link

![Graphs showing data link performance metrics](image-url)
Run 5: Statistics of Verus

End at: 2019-01-19 18:29:21
Local clock offset: 0.06 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-01-19 21:06:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.61 Mbit/s
95th percentile per-packet one-way delay: 101.294 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 176.61 Mbit/s
95th percentile per-packet one-way delay: 101.294 ms
Loss rate: 0.40%
Run 5: Report of Verus — Data Link
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-19 16:16:46
End at: 2019-01-19 16:17:16
Local clock offset: -0.032 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2019-01-19 21:06:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 346.56 Mbit/s
95th percentile per-packet one-way delay: 70.704 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 346.56 Mbit/s
95th percentile per-packet one-way delay: 70.704 ms
Loss rate: 0.38%
Run 1: Report of PCC-Vivace — Data Link

![Graph of throughput and delay over time for Run 1.]

- **Flow 1 ingress (mean 346.77 Mbit/s)**
- **Flow 1 egress (mean 346.56 Mbit/s)**

![Graph of per packet one way delay for Run 1.]

- **Flow 1 (95th percentile 70.70 ms)**
Run 2: Statistics of PCC-Vivace

End at: 2019-01-19 16:48:58
Local clock offset: -0.096 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-01-19 21:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 449.43 Mbit/s
95th percentile per-packet one-way delay: 51.312 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 449.43 Mbit/s
95th percentile per-packet one-way delay: 51.312 ms
Loss rate: 0.33%
Run 2: Report of PCC-Vivace — Data Link
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-19 17:20:42
End at: 2019-01-19 17:21:12
Local clock offset: 0.392 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2019-01-19 21:08:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 437.04 Mbit/s
95th percentile per-packet one-way delay: 49.221 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 437.04 Mbit/s
95th percentile per-packet one-way delay: 49.221 ms
Loss rate: 0.36%
Run 3: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 437.22 Mbit/s)**
- **Flow 1 egress (mean 437.04 Mbit/s)**

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

- **Flow 1 (95th percentile 49.22 ms)**
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-19 17:53:01
End at: 2019-01-19 17:53:31
Local clock offset: -0.047 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 449.57 Mbit/s
95th percentile per-packet one-way delay: 74.923 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 449.57 Mbit/s
95th percentile per-packet one-way delay: 74.923 ms
Loss rate: 0.58%
Run 4: Report of PCC-Vivace — Data Link

Graph 1: Throughput (Mbps)
- Blue dashed line: Flow 1 ingress (mean 450.77 Mbps)
- Blue solid line: Flow 1 egress (mean 449.57 Mbps)

Graph 2: Per packet one way delay (ms)
- Blue: Flow 1 (95th percentile 74.92 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-19 18:25:34
End at: 2019-01-19 18:26:04
Local clock offset: 0.012 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 369.26 Mbit/s
95th percentile per-packet one-way delay: 58.769 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 369.26 Mbit/s
95th percentile per-packet one-way delay: 58.769 ms
Loss rate: 0.40%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-01-19 16:12:25
End at: 2019-01-19 16:12:55
Local clock offset: -0.038 ms
Remote clock offset: -0.118 ms
Run 1: Report of WebRTC media — Data Link

![Graph of throughput over time]

![Graph of packet one-way delay over time]
Run 2: Statistics of WebRTC media

Start at: 2019-01-19 16:44:15
End at: 2019-01-19 16:44:45
Local clock offset: -0.102 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 47.494 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 47.494 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbit/s)](image1)

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

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

- Flow 1 (90th percentile 47.49 ms)
Run 3: Statistics of WebRTC media

Start at: 2019-01-19 17:16:28
End at: 2019-01-19 17:16:58
Local clock offset: 0.073 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.620 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.620 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-01-19 17:48:46
End at: 2019-01-19 17:49:16
Local clock offset: 0.344 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 48.001 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 48.001 ms
  Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

![Graph showing throughput and round-trip time over time for WebRTC media.]
Run 5: Statistics of WebRTC media

Start at: 2019-01-19 18:21:18
Local clock offset: 0.055 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-01-19 21:08:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.578 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.578 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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

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

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

- Flow 1 (90th percentile 46.58 ms)