Pantheon Report

Generated at 2019-02-12 16:47:22 (UTC).
Data path: GCE Sydney on ens4 (local) →GCE Tokyo on ens4 (remote).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 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 @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babc4b2b090d2c646fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbfe58e562f4
third_party/indigo @ 2601c92e4a9d58d38cd4dfe0edebf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f86663f58d27af942717625ee3a354cc2e027bd
third_party/pantheon-tunnel @ f86663f58d27af942717625ee3a354cc2e027bd
third_party/pcc @ 1afc958fa0d6d18b23c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4ebf24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3ccf42
third_party/scream-reproduce @ f099118d421aa3131bf11ff1964974e1da33db2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a6ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutcomm.cc
third_party/verus @ 4d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
test from GCE Sydney to GCE Tokyo, 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>499.59</td>
<td>141.30</td>
<td>0.52</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>289.05</td>
<td>63.72</td>
<td>0.00</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>556.99</td>
<td>84.21</td>
<td>0.04</td>
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<td>FillP</td>
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<td>934.48</td>
<td>100.01</td>
<td>0.58</td>
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<td>87.00</td>
<td>0.27</td>
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<td>Indigo</td>
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<td>57.25</td>
<td>0.00</td>
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<td>Indigo-MusesC3</td>
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<td>60.65</td>
<td>0.01</td>
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<td>0.00</td>
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<td>75.30</td>
<td>0.03</td>
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<td>LEDBAT</td>
<td>5</td>
<td>28.01</td>
<td>58.70</td>
<td>0.00</td>
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<td>PCC-Allegro</td>
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<td>468.31</td>
<td>159.57</td>
<td>1.08</td>
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<td>PCC-Expr</td>
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<td>128.46</td>
<td>0.50</td>
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<td>QUIC Cubic</td>
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<td>56.16</td>
<td>0.00</td>
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<td>5</td>
<td>0.22</td>
<td>57.94</td>
<td>0.03</td>
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<td>Sprout</td>
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<td>7.68</td>
<td>57.89</td>
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<td>58.19</td>
<td>0.00</td>
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<td>58.70</td>
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<td>Verus</td>
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<td>189.11</td>
<td>169.59</td>
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<td>PCC-Vivace</td>
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<td>0.00</td>
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<td>WebRTC media</td>
<td>5</td>
<td>0.90</td>
<td>57.22</td>
<td>0.00</td>
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</table>
Run 1: Statistics of TCP BBR

Start at: 2019-02-12 11:38:39
End at: 2019-02-12 11:39:09
Local clock offset: 0.244 ms
Remote clock offset: 0.449 ms

# Below is generated by plot.py at 2019-02-12 14:24:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 525.78 Mbit/s
95th percentile per-packet one-way delay: 146.322 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 525.78 Mbit/s
95th percentile per-packet one-way delay: 146.322 ms
Loss rate: 0.51%
Run 1: Report of TCP BBR — Data Link

![Graph of network throughput and round-trip time over time]

- **Flow 1 ingress (mean 528.49 Mbit/s)**
- **Flow 1 egress (mean 525.78 Mbit/s)**

![Graph of packet delay time over time]

- **Flow 1 (95th percentile 146.32 ms)**
Run 2: Statistics of TCP BBR

Start at: 2019-02-12 12:12:59
End at: 2019-02-12 12:13:29
Local clock offset: 0.04 ms
Remote clock offset: -1.51 ms

# Below is generated by plot.py at 2019-02-12 14:24:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 491.71 Mbit/s
95th percentile per-packet one-way delay: 136.638 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 491.71 Mbit/s
95th percentile per-packet one-way delay: 136.638 ms
Loss rate: 0.35%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Start at: 2019-02-12 12:47:54
End at: 2019-02-12 12:48:24
Local clock offset: 0.168 ms
Remote clock offset: -1.408 ms

# Below is generated by plot.py at 2019-02-12 14:24:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 473.55 Mbit/s
95th percentile per-packet one-way delay: 153.530 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 473.55 Mbit/s
95th percentile per-packet one-way delay: 153.530 ms
Loss rate: 0.70%
Run 3: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 476.85 Mbps)
- Flow 1 egress (mean 473.55 Mbps)

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

- Flow 1 (95th percentile 153.53 ms)
Run 4: Statistics of TCP BBR

Start at: 2019-02-12 13:21:10
End at: 2019-02-12 13:21:40
Local clock offset: 0.358 ms
Remote clock offset: -1.316 ms

# Below is generated by plot.py at 2019-02-12 14:24:01
# Datalink statistics
-- Total of 1 flow:
    Average throughput: 496.12 Mbit/s
    95th percentile per-packet one-way delay: 159.266 ms
    Loss rate: 0.86%
-- Flow 1:
    Average throughput: 496.12 Mbit/s
    95th percentile per-packet one-way delay: 159.266 ms
    Loss rate: 0.86%
Run 4: Report of TCP BBR — Data Link

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

![Graph 2: Per-packet round trip delay (ms)](image2)

Legend:
- Flow 1 ingress (mean 500.44 Mbit/s)
- Flow 1 egress (mean 496.12 Mbit/s)
- Flow 1 (95th percentile 159.27 ms)
Run 5: Statistics of TCP BBR

End at: 2019-02-12 13:55:53
Local clock offset: -0.615 ms
Remote clock offset: -0.62 ms

# Below is generated by plot.py at 2019-02-12 14:24:01
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 510.80 Mbit/s
  95th percentile per-packet one-way delay: 110.727 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 510.80 Mbit/s
  95th percentile per-packet one-way delay: 110.727 ms
  Loss rate: 0.18%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-02-12 11:35:35
End at: 2019-02-12 11:36:06
Local clock offset: -0.225 ms
Remote clock offset: 1.225 ms

# Below is generated by plot.py at 2019-02-12 14:26:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.64 Mbit/s
95th percentile per-packet one-way delay: 74.832 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 343.64 Mbit/s
95th percentile per-packet one-way delay: 74.832 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-02-12 12:10:04
End at: 2019-02-12 12:10:34
Local clock offset: -0.186 ms
Remote clock offset: -0.795 ms

# Below is generated by plot.py at 2019-02-12 14:26:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 277.21 Mbit/s
95th percentile per-packet one-way delay: 59.331 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 277.21 Mbit/s
95th percentile per-packet one-way delay: 59.331 ms
Loss rate: 0.00%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2019-02-12 12:44:53
End at: 2019-02-12 12:45:23
Local clock offset: -0.646 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-02-12 14:26:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 258.88 Mbit/s
95th percentile per-packet one-way delay: 60.138 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 258.88 Mbit/s
95th percentile per-packet one-way delay: 60.138 ms
Loss rate: 0.00%
Run 3: Report of Copa — Data Link

Graph 1: Throughput (Mbps)

- Flow 1 ingress (mean 258.88 Mbps)
- Flow 1 egress (mean 258.88 Mbps)

Graph 2: Packet one way delay (ms)

- Flow 1 95th percentile 60.14 ms
Run 4: Statistics of Copa

Start at: 2019-02-12 13:18:18
End at: 2019-02-12 13:18:48
Local clock offset: -0.406 ms
Remote clock offset: -1.275 ms

# Below is generated by plot.py at 2019-02-12 14:36:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 281.94 Mbit/s
95th percentile per-packet one-way delay: 61.906 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 281.94 Mbit/s
95th percentile per-packet one-way delay: 61.906 ms
Loss rate: 0.01%
Run 4: Report of Copa — Data Link

![Throughput Graph]

- **Flow 1 ingress (mean 281.94 Mbit/s)**
- **Flow 1 egress (mean 281.94 Mbit/s)**

![Latency Graph]

- **Flow 1 (95th percentile 61.91 ms)**
Run 5: Statistics of Copa

Start at: 2019-02-12 13:52:32
End at: 2019-02-12 13:53:02
Local clock offset: 0.331 ms
Remote clock offset: 0.226 ms

# Below is generated by plot.py at 2019-02-12 14:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 283.57 Mbit/s
95th percentile per-packet one-way delay: 62.413 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 283.57 Mbit/s
95th percentile per-packet one-way delay: 62.413 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link

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

- Flow 1 ingress (mean 283.57 Mbit/s)
- Flow 1 egress (mean 283.57 Mbit/s)

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

- Flow 1 (95th percentile 62.41 ms)
Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 11:32:34
End at: 2019-02-12 11:33:04
Local clock offset: -0.434 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-02-12 14:38:46
# Datalink statistics
-- Total of 1 flow:
 Average throughput: 621.33 Mbit/s
 95th percentile per-packet one-way delay: 86.968 ms
 Loss rate: 0.00%
-- Flow 1:
 Average throughput: 621.33 Mbit/s
 95th percentile per-packet one-way delay: 86.968 ms
 Loss rate: 0.00%
Run 1: Report of TCP Cubic — Data Link

![Graph of Throughput vs Time]

- Flow 1 ingress (mean 621.34 Mbit/s)
- Flow 1 egress (mean 621.33 Mbit/s)

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

- Flow 1 (95th percentile 86.97 ms)
Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 12:07:01
End at: 2019-02-12 12:07:31
Local clock offset: -0.201 ms
Remote clock offset: -0.821 ms

# Below is generated by plot.py at 2019-02-12 14:38:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 611.33 Mbit/s
95th percentile per-packet one-way delay: 82.886 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 611.33 Mbit/s
95th percentile per-packet one-way delay: 82.886 ms
Loss rate: 0.08%
Run 2: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 611.84 Mbit/s)**
- **Flow 1 egress (mean 611.33 Mbit/s)**
Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 12:41:50
End at: 2019-02-12 12:42:20
Local clock offset: 0.183 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2019-02-12 14:38:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 608.54 Mbit/s
95th percentile per-packet one-way delay: 111.819 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 608.54 Mbit/s
95th percentile per-packet one-way delay: 111.819 ms
Loss rate: 0.11%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 13:15:24
End at: 2019-02-12 13:15:54
Local clock offset: -0.381 ms
Remote clock offset: -1.322 ms

# Below is generated by plot.py at 2019-02-12 14:38:46
# Datalink statistics
  -- Total of 1 flow:
  Average throughput: 506.32 Mbit/s
  95th percentile per-packet one-way delay: 59.701 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 506.32 Mbit/s
  95th percentile per-packet one-way delay: 59.701 ms
  Loss rate: 0.00%
Run 4: Report of TCP Cubic — Data Link

![Graph showing throughput over time](chart1.png)

![Graph showing packet delays over time](chart2.png)
Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 13:49:41
End at: 2019-02-12 13:50:12
Local clock offset: -0.092 ms
Remote clock offset: -1.285 ms

# Below is generated by plot.py at 2019-02-12 14:38:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 437.41 Mbit/s
95th percentile per-packet one-way delay: 79.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 437.41 Mbit/s
95th percentile per-packet one-way delay: 79.683 ms
Loss rate: 0.00%
Run 5: Report of TCP Cubic — Data Link

![Graph 1: Throughput vs. Time]

- **Throughput (Mbps)**
- **Time (s)**
- **Flow 1 ingress (mean 437.40 Mbit/s)**
- **Flow 1 egress (mean 437.41 Mbit/s)**

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

- **Per-packet one-way delay (ms)**
- **Flow 1 (95th percentile 79.68 ms)**
Run 1: Statistics of FillP

Start at: 2019-02-12 11:10:40
End at: 2019-02-12 11:11:10
Local clock offset: -0.123 ms
Remote clock offset: -1.385 ms

# Below is generated by plot.py at 2019-02-12 14:52:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 938.43 Mbit/s
95th percentile per-packet one-way delay: 110.494 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 938.43 Mbit/s
95th percentile per-packet one-way delay: 110.494 ms
Loss rate: 0.86%
Run 1: Report of FillP — Data Link

![Graph 1: Throughput vs Time]

- Flow 1 ingress (mean 946.61 Mbit/s)
- Flow 1 egress (mean 938.43 Mbit/s)

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

- Flow 1 (95th percentile 110.49 ms)
Run 2: Statistics of FillP

Start at: 2019-02-12 11:44:20
End at: 2019-02-12 11:44:50
Local clock offset: -0.593 ms
Remote clock offset: 0.609 ms

# Below is generated by plot.py at 2019-02-12 15:03:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 913.73 Mbit/s
95th percentile per-packet one-way delay: 94.429 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 913.73 Mbit/s
95th percentile per-packet one-way delay: 94.429 ms
Loss rate: 0.30%
Run 2: Report of FillP — Data Link

![Graph showing throughput and latency over time for a data link test.]

- Throughput (Mb/s) vs. Time (s)
- Flow Ingress (mean 916.46 Mb/s)
- Flow Egress (mean 913.73 Mb/s)

![Graph showing per-packet one-way delay (ms) over time for a data link test.]

- Flow 1 (95th percentile 94.43 ms)
Run 3: Statistics of FillP

Start at: 2019-02-12 12:18:34
End at: 2019-02-12 12:19:04
Local clock offset: -0.398 ms
Remote clock offset: -0.519 ms

# Below is generated by plot.py at 2019-02-12 15:05:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 946.08 Mbit/s
95th percentile per-packet one-way delay: 96.076 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 946.08 Mbit/s
95th percentile per-packet one-way delay: 96.076 ms
Loss rate: 0.35%
Run 3: Report of FillP — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: One-way delay (ms)]
Run 4: Statistics of FillP

Start at: 2019-02-12 12:53:35  
End at: 2019-02-12 12:54:05  
Local clock offset: 0.022 ms  
Remote clock offset: -1.171 ms

# Below is generated by plot.py at 2019-02-12 15:05:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 944.35 Mbit/s
95th percentile per-packet one-way delay: 88.721 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 944.35 Mbit/s
95th percentile per-packet one-way delay: 88.721 ms
Loss rate: 0.41%
Run 4: Report of FillP — Data Link

![Graph showing data link performance](image1)

![Graph showing packet loss and delay](image2)
Run 5: Statistics of FillP

Start at: 2019-02-12 13:26:56
End at: 2019-02-12 13:27:26
Local clock offset: -0.183 ms
Remote clock offset: -1.349 ms

# Below is generated by plot.py at 2019-02-12 15:05:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 929.82 Mbit/s
95th percentile per-packet one-way delay: 110.317 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 929.82 Mbit/s
95th percentile per-packet one-way delay: 110.317 ms
Loss rate: 0.99%
Run 5: Report of FillP — Data Link

![Graph 1](image1)

**Graph 1:**
- Flow 1 ingress (mean 939.09 Mbit/s)
- Flow 1 egress (mean 929.82 Mbit/s)

![Graph 2](image2)

**Graph 2:**
- Flow 1 (95th percentile 110.32 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 11:40:29
End at: 2019-02-12 11:40:59
Local clock offset: -0.366 ms
Remote clock offset: -0.847 ms

# Below is generated by plot.py at 2019-02-12 15:05:46
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 900.76 Mbit/s
  95th percentile per-packet one-way delay: 83.681 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 900.76 Mbit/s
  95th percentile per-packet one-way delay: 83.681 ms
  Loss rate: 0.06%
Run 1: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Flow 1 ingress (mean 901.15 Mbit/s)  Flow 1 egress (mean 900.76 Mbit/s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 83.68 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 12:14:43
End at: 2019-02-12 12:15:13
Local clock offset: 0.039 ms
Remote clock offset: -1.545 ms

# Below is generated by plot.py at 2019-02-12 15:06:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 934.77 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 934.77 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 0.11%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 12:49:39
End at: 2019-02-12 12:50:10
Local clock offset: -0.402 ms
Remote clock offset: -0.731 ms

# Below is generated by plot.py at 2019-02-12 15:06:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 936.18 Mbit/s
95th percentile per-packet one-way delay: 98.673 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 936.18 Mbit/s
95th percentile per-packet one-way delay: 98.673 ms
Loss rate: 0.59%
Run 3: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 941.74 Mbps)
- Flow 1 egress (mean 936.18 Mbps)

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

- Flow 1 (95th percentile 90.67 ms)
Run 4: Statistics of FillP-Sheep

End at: 2019-02-12 13:23:28
Local clock offset: -0.38 ms
Remote clock offset: -0.651 ms

# Below is generated by plot.py at 2019-02-12 15:23:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 934.61 Mbit/s
95th percentile per-packet one-way delay: 87.781 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 934.61 Mbit/s
95th percentile per-packet one-way delay: 87.781 ms
Loss rate: 0.27%
Run 4: Report of FillP-Sheep — Data Link

![Graph 1](image1.png)

Flow 1 ingress (mean 937.11 Mbits)  Flow 1 egress (mean 934.61 Mbits)

![Graph 2](image2.png)

Per socket one way delay (ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 13:57:00
End at: 2019-02-12 13:57:30
Local clock offset: -0.184 ms
Remote clock offset: -0.633 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 897.84 Mbit/s
95th percentile per-packet one-way delay: 100.831 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 897.84 Mbit/s
95th percentile per-packet one-way delay: 100.831 ms
Loss rate: 0.32%
Run 5: Report of FillP-Sheep — Data Link

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

Flow 1 ingress (mean 900.77 Mbit/s) and Flow 1 egress (mean 897.84 Mbit/s)

Delay distribution for Flow 1 (95th percentile 100.83 ms)
Run 1: Statistics of Indigo

Start at: 2019-02-12 11:28:07
End at: 2019-02-12 11:28:37
Local clock offset: -0.185 ms
Remote clock offset: -0.768 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
 Average throughput: 222.21 Mbit/s
 95th percentile per-packet one-way delay: 56.946 ms
 Loss rate: 0.00%
-- Flow 1:
 Average throughput: 222.21 Mbit/s
 95th percentile per-packet one-way delay: 56.946 ms
 Loss rate: 0.00%
Run 1: Report of Indigo — Data Link

![Graph showing throughput over time for different flows]

![Graph showing packet delay over time for Flow 1, with 95th percentile highlighted]

Flow 1 ingress (mean 222.20 Mbit/s) and Flow 1 egress (mean 222.21 Mbit/s)
Flow 1 (95th percentile 56.95 ms)
Run 2: Statistics of Indigo

Start at: 2019-02-12 12:02:24
End at: 2019-02-12 12:02:54
Local clock offset: 0.108 ms
Remote clock offset: -0.694 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 221.35 Mbit/s
95th percentile per-packet one-way delay: 56.479 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.35 Mbit/s
95th percentile per-packet one-way delay: 56.479 ms
Loss rate: 0.00%
Run 2: Report of Indigo — Data Link

![Graph of throughput over time showing the performance of Flow 1 ingress (mean 221.35 Mbit/s) and Flow 1 egress (mean 221.35 Mbit/s).]

![Graph of per-packet one-way delay (ms) showing the performance of Flow 1 (95th percentile 56.48 ms).]
Run 3: Statistics of Indigo

Start at: 2019-02-12 12:37:14
End at: 2019-02-12 12:37:44
Local clock offset: 0.021 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics

-- Total of 1 flow:
Average throughput: 222.64 Mbit/s
95th percentile per-packet one-way delay: 57.235 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 222.64 Mbit/s
95th percentile per-packet one-way delay: 57.235 ms
Loss rate: 0.00%
Run 4: Statistics of Indigo

Start at: 2019-02-12 13:10:47
End at: 2019-02-12 13:11:17
Local clock offset: -0.514 ms
Remote clock offset: 0.832 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 224.61 Mbit/s
95th percentile per-packet one-way delay: 58.978 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.61 Mbit/s
95th percentile per-packet one-way delay: 58.978 ms
Loss rate: 0.00%
Run 4: Report of Indigo — Data Link

![Graph showing throughput over time for different data link scenarios]

- Flow 1 ingress (mean 224.61 Mbit/s)
- Flow 1 egress (mean 224.61 Mbit/s)

![Graph showing packet delay over time for different data link scenarios]

- Flow 1 (95th percentile 58.98 ms)
Run 5: Statistics of Indigo

Start at: 2019-02-12 13:45:06
End at: 2019-02-12 13:45:36
Local clock offset: -0.552 ms
Remote clock offset: -1.28 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 226.34 Mbit/s
95th percentile per-packet one-way delay: 56.633 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 226.34 Mbit/s
95th percentile per-packet one-way delay: 56.633 ms
Loss rate: 0.00%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 11:30:49
End at: 2019-02-12 11:31:19
Local clock offset: -0.404 ms
Remote clock offset: -0.71 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.86 Mbit/s
95th percentile per-packet one-way delay: 60.410 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 578.86 Mbit/s
95th percentile per-packet one-way delay: 60.410 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesC3 — Data Link

[Graph showing throughput and packet delay over time]

- Flow 1 ingress (mean 578.88 Mbit/s)
- Flow 1 egress (mean 578.86 Mbit/s)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 12:05:07
End at: 2019-02-12 12:05:37
Local clock offset: 0.225 ms
Remote clock offset: -1.443 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 537.65 Mbit/s
95th percentile per-packet one-way delay: 60.224 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 537.65 Mbit/s
95th percentile per-packet one-way delay: 60.224 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC3 — Data Link

![Graph showing network performance metrics over time](image-url)

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Flow 1 ingress (mean 537.66 Mbit/s)  |  Flow 1 egress (mean 537.65 Mbit/s)
---

![Graph showing network delay over time](image-url)

---

Flow 1 (95th percentile 60.22 ms)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 12:40:07
End at: 2019-02-12 12:40:37
Local clock offset: 0.279 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.21 Mbit/s
95th percentile per-packet one-way delay: 61.699 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 578.21 Mbit/s
95th percentile per-packet one-way delay: 61.699 ms
Loss rate: 0.01%
Run 3: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and delay over time](image-url)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 13:13:29
End at: 2019-02-12 13:14:00
Local clock offset: 0.277 ms
Remote clock offset: -0.729 ms

# Below is generated by plot.py at 2019-02-12 15:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 580.78 Mbit/s
95th percentile per-packet one-way delay: 59.961 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 580.78 Mbit/s
95th percentile per-packet one-way delay: 59.961 ms
Loss rate: 0.02%
Run 4: Report of Indigo-MusesC3 — Data Link
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 13:47:53
End at: 2019-02-12 13:48:23
Local clock offset: -0.027 ms
Remote clock offset: -1.324 ms

# Below is generated by plot.py at 2019-02-12 15:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.89 Mbit/s
95th percentile per-packet one-way delay: 60.962 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 578.89 Mbit/s
95th percentile per-packet one-way delay: 60.962 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and packet delay over time]

**Throughput (Mbps):**
- Flow 1 ingress (mean 578.90 Mbit/s)
- Flow 1 egress (mean 578.89 Mbit/s)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 60.96 ms)
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 11:24:35
End at: 2019-02-12 11:25:05
Local clock offset: -0.171 ms
Remote clock offset: -0.764 ms

# Below is generated by plot.py at 2019-02-12 15:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 576.47 Mbit/s
95th percentile per-packet one-way delay: 76.841 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 576.47 Mbit/s
95th percentile per-packet one-way delay: 76.841 ms
Loss rate: 0.02%
Run 1: Report of Indigo-MusesC5 — Data Link

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

- Flow 1 ingress (mean 576.52 Mbps)
- Flow 1 egress (mean 576.47 Mbps)

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

- Flow 1 (95th percentile 76.84 ms)
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 11:58:46
End at: 2019-02-12 11:59:17
Local clock offset: -0.161 ms
Remote clock offset: -1.323 ms

# Below is generated by plot.py at 2019-02-12 15:34:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 547.37 Mbit/s
95th percentile per-packet one-way delay: 58.233 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 547.37 Mbit/s
95th percentile per-packet one-way delay: 58.233 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 12:33:33
End at: 2019-02-12 12:34:03
Local clock offset: -0.383 ms
Remote clock offset: 1.337 ms

# Below is generated by plot.py at 2019-02-12 15:39:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 618.88 Mbit/s
95th percentile per-packet one-way delay: 75.509 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 618.88 Mbit/s
95th percentile per-packet one-way delay: 75.509 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesC5 — Data Link
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 13:07:21
End at: 2019-02-12 13:07:51
Local clock offset: 0.148 ms
Remote clock offset: -0.632 ms

# Below is generated by plot.py at 2019-02-12 15:44:26
# Datalink statistics

-- Total of 1 flow:
Average throughput: 615.68 Mbit/s
95th percentile per-packet one-way delay: 71.376 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 615.68 Mbit/s
95th percentile per-packet one-way delay: 71.376 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph 1](image1.png)

- **Flow 1 ingress (mean 615.68 Mbit/s)**
- **Flow 1 egress (mean 615.68 Mbit/s)**

![Graph 2](image2.png)

- **Flow 1 (95th percentile 71.38 ms)**
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 13:41:29
End at: 2019-02-12 13:41:59
Local clock offset: -0.214 ms
Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2019-02-12 15:45:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 605.66 Mbit/s
95th percentile per-packet one-way delay: 65.566 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 605.66 Mbit/s
95th percentile per-packet one-way delay: 65.566 ms
Loss rate: 0.01%
Run 5: Report of Indigo-MusesC5 — Data Link

![Graph showing throughput and delay over time.]
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 11:14:22
End at: 2019-02-12 11:14:52
Local clock offset: 0.06 ms
Remote clock offset: 0.685 ms
Run 1: Report of Indigo-MusesD — Data Link

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**Graph 1:**
- X-axis: Time (s)
- Y-axis: Throughput (Mb/s)
- Legend: Flow 1 ingress (mean 12.10 Mb/s), Flow 1 egress (mean 12.10 Mb/s)

**Graph 2:**
- X-axis: Time (s)
- Y-axis: End-to-end one-way delay (ms)
- Legend: Flow 1 (90th percentile 57.77 ms)

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Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 11:48:04
End at: 2019-02-12 11:48:34
Local clock offset: -0.153 ms
Remote clock offset: -0.667 ms

# Below is generated by plot.py at 2019-02-12 15:45:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 563.55 Mbit/s
95th percentile per-packet one-way delay: 62.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 563.55 Mbit/s
95th percentile per-packet one-way delay: 62.808 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesD — Data Link

![Graph of Throughput and Packet Delays](image)

- **Flow 1 ingress (mean 563.58 Mbit/s)**
- **Flow 1 egress (mean 563.55 Mbit/s)**
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 12:22:34
End at: 2019-02-12 12:23:04
Local clock offset: -0.669 ms
Remote clock offset: -0.69 ms

# Below is generated by plot.py at 2019-02-12 15:45:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 519.67 Mbit/s
95th percentile per-packet one-way delay: 61.721 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 519.67 Mbit/s
95th percentile per-packet one-way delay: 61.721 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesD — Data Link

![Graph of throughput over time]

- Flow 1 ingress (mean 519.70 Mbit/s)
- Flow 1 egress (mean 519.67 Mbit/s)

![Graph of packet delay over time]

- Flow 1 (95th percentile 61.72 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 12:57:09
End at: 2019-02-12 12:57:39
Local clock offset: -0.154 ms
Remote clock offset: -1.284 ms

# Below is generated by plot.py at 2019-02-12 15:45:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 362.29 Mbit/s
95th percentile per-packet one-way delay: 62.857 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 362.29 Mbit/s
95th percentile per-packet one-way delay: 62.857 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesD — Data Link

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

- Flow 1 ingress (mean 362.23 Mbps)
- Flow 1 egress (mean 362.29 Mbps)

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

- Flow 1 (95th percentile 62.86 ms)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 13:30:30
End at: 2019-02-12 13:31:00
Local clock offset: -0.156 ms
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2019-02-12 15:45:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 556.93 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 556.93 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesD — Data Link

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Flow 1 ingress (mean 556.95 Mbit/s)  
Flow 1 egress (mean 556.93 Mbit/s)

Flow 1 (95th percentile 63.03 ms)
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 11:26:17
End at: 2019-02-12 11:26:47
Local clock offset: -0.098 ms
Remote clock offset: -0.671 ms

# Below is generated by plot.py at 2019-02-12 15:51:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 633.49 Mbit/s
95th percentile per-packet one-way delay: 75.844 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 633.49 Mbit/s
95th percentile per-packet one-way delay: 75.844 ms
Loss rate: 0.03%
Run 1: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingress (mean 633.58 Mbit/s)**
- **Flow 1 egress (mean 633.49 Mbit/s)**

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

- **Flow 1 (95th percentile 75.84 ms)**
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 12:00:35
End at: 2019-02-12 12:01:05
Local clock offset: 0.272 ms
Remote clock offset: -1.358 ms

# Below is generated by plot.py at 2019-02-12 15:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 636.77 Mbit/s
95th percentile per-packet one-way delay: 68.187 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 636.77 Mbit/s
95th percentile per-packet one-way delay: 68.187 ms
Loss rate: 0.01%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 12:35:21
End at: 2019-02-12 12:35:51
Local clock offset: ~0.054 ms
Remote clock offset: ~0.501 ms

# Below is generated by plot.py at 2019-02-12 15:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 615.40 Mbit/s
95th percentile per-packet one-way delay: 85.991 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 615.40 Mbit/s
95th percentile per-packet one-way delay: 85.991 ms
Loss rate: 0.08%
Run 3: Report of Indigo-MusesT — Data Link

![Graph of Throughput](image1)

![Graph of Packet Delay](image2)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 13:09:03
End at: 2019-02-12 13:09:33
Local clock offset: -0.308 ms
Remote clock offset: -0.631 ms

# Below is generated by plot.py at 2019-02-12 15:57:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 602.58 Mbit/s
95th percentile per-packet one-way delay: 70.598 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 602.58 Mbit/s
95th percentile per-packet one-way delay: 70.598 ms
Loss rate: 0.03%
Run 4: Report of Indigo-MusesT — Data Link

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

Flow 1 ingress (mean 602.69 Mbit/s)  Flow 1 egress (mean 602.58 Mbit/s)

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

Flow 1 (95th percentile 70.60 ms)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 13:43:15
End at: 2019-02-12 13:43:45
Local clock offset: 0.384 ms
Remote clock offset: -1.225 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 657.22 Mbit/s
  95th percentile per-packet one-way delay: 75.861 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 657.22 Mbit/s
  95th percentile per-packet one-way delay: 75.861 ms
  Loss rate: 0.02%
Run 5: Report of Indigo-MusesT — Data Link

![Throughput and Delay Graphs]

- Flow 1 ingress (mean 657.34 Mbit/s)
- Flow 1 egress (mean 657.22 Mbit/s)
Run 1: Statistics of LE DBAT

Start at: 2019-02-12 11:34:23
End at: 2019-02-12 11:34:53
Local clock offset: 0.447 ms
Remote clock offset: 0.295 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.38 Mbit/s
95th percentile per-packet one-way delay: 58.113 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.38 Mbit/s
95th percentile per-packet one-way delay: 58.113 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-02-12 12:08:53
End at: 2019-02-12 12:09:23
Local clock offset: -0.582 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.42 Mbit/s
95th percentile per-packet one-way delay: 58.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.42 Mbit/s
95th percentile per-packet one-way delay: 58.494 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

![Graph 1: Throughput vs. Time]
- **Flow 1 ingress (mean 28.42 Mbit/s)**
- **Flow 1 egress (mean 28.42 Mbit/s)**

![Graph 2: Per-packet one-way delay vs. Time]
- **Flow 1 (95th percentile 58.49 ms)**
Run 3: Statistics of LEDBAT

Start at: 2019-02-12 12:43:40
End at: 2019-02-12 12:44:10
Local clock offset: -0.208 ms
Remote clock offset: -0.654 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.65 Mbit/s
95th percentile per-packet one-way delay: 61.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 26.65 Mbit/s
95th percentile per-packet one-way delay: 61.211 ms
Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2019-02-12 13:17:06
End at: 2019-02-12 13:17:36
Local clock offset: -0.097 ms
Remote clock offset: -0.673 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 57.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 57.494 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

![Graph of throughput vs. time for Flow 1 ingress and egress with mean 28.16 Mbit/s.]

![Graph of per-packet one-way delay vs. time for Flow 1 with 95th percentile delay 57.49 ms.]
Run 5: Statistics of LEDBAT

Start at: 2019-02-12 13:51:20
End at: 2019-02-12 13:51:50
Local clock offset: -0.181 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2019-02-12 15:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: 58.212 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: 58.212 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

![Graph showing throughput over time with two lines representing ingress and egress with mean 28.45 Mbit/s each.]

![Graph showing per-packet round-trip delay over time with a line representing Flow 1 and a marker indicating the 95th percentile of 58.21 ms.]
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 11:21:34
End at: 2019-02-12 11:22:04
Local clock offset: -0.179 ms
Remote clock offset: -0.765 ms

# Below is generated by plot.py at 2019-02-12 16:10:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 478.11 Mbit/s
95th percentile per-packet one-way delay: 161.324 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 478.11 Mbit/s
95th percentile per-packet one-way delay: 161.324 ms
Loss rate: 1.17%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 11:55:51
End at: 2019-02-12 11:56:21
Local clock offset: 0.074 ms
Remote clock offset: -1.508 ms

# Below is generated by plot.py at 2019-02-12 16:10:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 433.54 Mbit/s
95th percentile per-packet one-way delay: 146.808 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 433.54 Mbit/s
95th percentile per-packet one-way delay: 146.808 ms
Loss rate: 0.53%
Run 2: Report of PCC-Allegro — Data Link

![Graph showing throughput and packet delay over time for different flow rates.](image-url)
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 12:30:25
End at: 2019-02-12 12:30:55
Local clock offset: -0.282 ms
Remote clock offset: -1.459 ms

# Below is generated by plot.py at 2019-02-12 16:11:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 477.39 Mbit/s
95th percentile per-packet one-way delay: 163.805 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 477.39 Mbit/s
95th percentile per-packet one-way delay: 163.805 ms
Loss rate: 1.14%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 13:04:33
End at: 2019-02-12 13:05:03
Local clock offset: -0.171 ms
Remote clock offset: -1.35 ms

# Below is generated by plot.py at 2019-02-12 16:15:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 481.19 Mbit/s
95th percentile per-packet one-way delay: 163.569 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 481.19 Mbit/s
95th percentile per-packet one-way delay: 163.569 ms
Loss rate: 1.04%
Run 4: Report of PCC-Allegro — Data Link

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

![Graph 2: Packet Delay Over Time](image2.png)

Flow 1 ingress (mean 486.21 Mbit/s)  Flow 1 egress (mean 481.19 Mbit/s)

Flow 1 (95th percentile 163.57 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 13:38:24
End at: 2019-02-12 13:38:54
Local clock offset: -0.186 ms
Remote clock offset: -0.637 ms

# Below is generated by plot.py at 2019-02-12 16:18:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 471.31 Mbit/s
95th percentile per-packet one-way delay: 162.337 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 471.31 Mbit/s
95th percentile per-packet one-way delay: 162.337 ms
Loss rate: 1.52%
Run 5: Report of PCC-Allegro — Data Link

![Throughput Graph]

- **Flow 1 ingress** (mean 478.60 Mbit/s)
- **Flow 1 egress** (mean 471.31 Mbit/s)

![Delay Graph]

- **Flow 1** (95th percentile 162.34 ms)
Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 11:08:53
End at: 2019-02-12 11:09:23
Local clock offset: 0.078 ms
Remote clock offset: 1.379 ms

# Below is generated by plot.py at 2019-02-12 16:18:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.04 Mbit/s
95th percentile per-packet one-way delay: 88.792 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 352.04 Mbit/s
95th percentile per-packet one-way delay: 88.792 ms
Loss rate: 0.37%
Run 1: Report of PCC-Expr — Data Link

![Graph of throughput and packet delay over time for Flow 1 ingress and egress, showing mean 353.34 Mbit/s and 352.04 Mbit/s respectively, with 95th percentile at 88.79 ms.]
Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 11:42:33
End at: 2019-02-12 11:43:03
Local clock offset: -0.162 ms
Remote clock offset: -1.015 ms

# Below is generated by plot.py at 2019-02-12 16:18:52
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 348.60 Mbit/s
  95th percentile per-packet one-way delay: 139.542 ms
  Loss rate: 0.63%
-- Flow 1:
  Average throughput: 348.60 Mbit/s
  95th percentile per-packet one-way delay: 139.542 ms
  Loss rate: 0.63%
Run 2: Report of PCC-Expr — Data Link

\[\text{Flow 1 ingress (mean 350.82 Mbit/s)}\]
\[\text{Flow 1 egress (mean 348.60 Mbit/s)}\]
Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 12:16:44
End at: 2019-02-12 12:17:14
Local clock offset: -0.119 ms
Remote clock offset: 1.357 ms

# Below is generated by plot.py at 2019-02-12 16:18:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.06 Mbit/s
95th percentile per-packet one-way delay: 132.970 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 349.06 Mbit/s
95th percentile per-packet one-way delay: 132.970 ms
Loss rate: 0.52%
Run 3: Report of PCC-Expr — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)
Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 12:51:41
End at: 2019-02-12 12:52:11
Local clock offset: 0.018 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2019-02-12 16:25:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 336.38 Mbit/s
95th percentile per-packet one-way delay: 143.503 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 336.38 Mbit/s
95th percentile per-packet one-way delay: 143.503 ms
Loss rate: 0.50%
Run 4: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 338.42 Mbit/s)
- Flow 1 egress (mean 336.38 Mbit/s)

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

- Flow 1 (95th percentile 143.50 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 13:25:10
End at: 2019-02-12 13:25:40
Local clock offset: 0.01 ms
Remote clock offset: 0.749 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 323.94 Mbit/s
95th percentile per-packet one-way delay: 137.477 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 323.94 Mbit/s
95th percentile per-packet one-way delay: 137.477 ms
Loss rate: 0.48%
Run 5: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 11:17:06
End at: 2019-02-12 11:17:36
Local clock offset: -0.098 ms
Remote clock offset: -1.406 ms
Run 1: Report of QUIC Cubic — Data Link

![Graph of Throughput vs Time and Packet Delay vs Time]
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 11:51:18
End at: 2019-02-12 11:51:48
Local clock offset: -0.59 ms
Remote clock offset: -1.411 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 56.385 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 56.385 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 12:25:54
End at: 2019-02-12 12:26:24
Local clock offset: -0.145 ms
Remote clock offset: -0.784 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.99 Mbit/s
95th percentile per-packet one-way delay: 56.359 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.99 Mbit/s
95th percentile per-packet one-way delay: 56.359 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 13:00:20
End at: 2019-02-12 13:00:50
Local clock offset: 0.082 ms
Remote clock offset: -1.363 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.47 Mbit/s
95th percentile per-packet one-way delay: 55.820 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.47 Mbit/s
95th percentile per-packet one-way delay: 55.820 ms
Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

---

Flow 1 ingress (mean 51.47 Mbit/s)  Flow 1 egress (mean 51.47 Mbit/s)

---

Flow 1 (95th percentile 55.82 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 13:33:53
End at: 2019-02-12 13:34:23
Local clock offset: 0.272 ms
Remote clock offset: -0.666 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.20 Mbit/s
95th percentile per-packet one-way delay: 56.065 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.20 Mbit/s
95th percentile per-packet one-way delay: 56.065 ms
Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-02-12 11:29:41
End at: 2019-02-12 11:30:11
Local clock offset: -0.02 ms
Remote clock offset: 0.486 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.959 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

![Graph of throughput vs. time for Run 1, showing flow ingress and egress patterns.]

![Graph of per-packet one-way delay vs. time for Run 1, showing flow data.]

Flow 1 ingress (mean 0.22 Mbit/s) and Flow 1 egress (mean 0.22 Mbit/s)
Run 2: Statistics of SCReAM

Start at: 2019-02-12 12:03:59
End at: 2019-02-12 12:04:29
Local clock offset: -0.384 ms
Remote clock offset: 1.206 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.784 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.784 ms
Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

[Graphs showing data link performance metrics including throughput and round-trip time.]
Run 3: Statistics of SCReAM

Start at: 2019-02-12 12:38:59
End at: 2019-02-12 12:39:29
Local clock offset: 0.164 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.306 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.306 ms
Loss rate: 0.13%
Run 3: Report of SCReAM — Data Link

![Graph showing network performance metrics]

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

**Packet delay (ms):**
- Flow 1 (95th percentile 60.31 ms)
Run 4: Statistics of SCReAM

Start at: 2019-02-12 13:12:21
End at: 2019-02-12 13:12:51
Local clock offset: 0.106 ms
Remote clock offset: -0.658 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 56.532 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 56.532 ms
  Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)

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

Flow 1 95th percentile 56.53 ms
Run 5: Statistics of SCReAM

Start at: 2019-02-12 13:46:45
End at: 2019-02-12 13:47:15
Local clock offset: -0.423 ms
Remote clock offset: -1.327 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
   Average throughput: 0.22 Mbit/s
   95th percentile per-packet one-way delay: 56.142 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 0.22 Mbit/s
   95th percentile per-packet one-way delay: 56.142 ms
   Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

![Graph showing network performance metrics over time]

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

![Graph showing per-packet delay over time]

*Flow 1 (95th percentile 56.14 ms)*
Run 1: Statistics of Sprout

Start at: 2019-02-12 11:37:30
End at: 2019-02-12 11:38:00
Local clock offset: -0.181 ms
Remote clock offset: 0.585 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 62.151 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 62.151 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

![Graph showing throughput and packet delay over time with labels for Flow 1 ingress and egress.]
Run 2: Statistics of Sprout

Start at: 2019-02-12 12:11:50
End at: 2019-02-12 12:12:20
Local clock offset: 0.091 ms
Remote clock offset: -1.572 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 55.880 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 55.880 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-02-12 12:46:45
End at: 2019-02-12 12:47:15
Local clock offset: -0.618 ms
Remote clock offset: -1.153 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 56.862 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 56.862 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2019-02-12 13:20:01
End at: 2019-02-12 13:20:31
Local clock offset: -0.145 ms
Remote clock offset: -0.7 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 7.84 Mbit/s
  95th percentile per-packet one-way delay: 57.109 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.84 Mbit/s
  95th percentile per-packet one-way delay: 57.109 ms
  Loss rate: 0.00%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-02-12 13:54:13
End at: 2019-02-12 13:54:43
Local clock offset: -0.647 ms
Remote clock offset: -0.596 ms

# Below is generated by plot.py at 2019-02-12 16:27:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.81 Mbit/s
95th percentile per-packet one-way delay: 57.467 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.81 Mbit/s
95th percentile per-packet one-way delay: 57.467 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-12 11:15:31  
End at: 2019-02-12 11:16:01  
Local clock offset: 0.081 ms  
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-02-12 16:27:45  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 230.51 Mbit/s  
95th percentile per-packet one-way delay: 60.535 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 230.51 Mbit/s  
95th percentile per-packet one-way delay: 60.535 ms  
Loss rate: 0.01%
Run 1: Report of TaoVA-100x — Data Link

[Graph showing throughput and packet delay over time]
Run 2: Statistics of TaoVA-100x

Start at: 2019-02-12 11:49:44
End at: 2019-02-12 11:50:14
Local clock offset: 0.247 ms
Remote clock offset: -1.41 ms

# Below is generated by plot.py at 2019-02-12 16:27:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 224.09 Mbit/s
95th percentile per-packet one-way delay: 55.893 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.09 Mbit/s
95th percentile per-packet one-way delay: 55.893 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

![Graph 1: Throughput vs Time]

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

Flow 1 ingress (mean 224.09 Mbit/s)
Flow 1 egress (mean 224.09 Mbit/s)

Flow 1 (95th percentile 55.89 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-02-12 12:24:15
End at: 2019-02-12 12:24:45
Local clock offset: -0.482 ms
Remote clock offset: -0.73 ms

# Below is generated by plot.py at 2019-02-12 16:27:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.15 Mbit/s
95th percentile per-packet one-way delay: 57.303 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 220.15 Mbit/s
95th percentile per-packet one-way delay: 57.303 ms
Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2019-02-12 12:58:40
End at: 2019-02-12 12:59:10
Local clock offset: -0.342 ms
Remote clock offset: -0.782 ms

# Below is generated by plot.py at 2019-02-12 16:27:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.68 Mbit/s
95th percentile per-packet one-way delay: 60.198 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 231.68 Mbit/s
95th percentile per-packet one-way delay: 60.198 ms
Loss rate: 0.01%
Run 4: Report of TaoVA-100x — Data Link

![Graph showing throughput and latency]

- Flow 1 ingress (mean 231.67 Mbit/s)
- Flow 1 egress (mean 231.68 Mbit/s)
Run 5: Statistics of TaoVA-100x

Start at: 2019-02-12 13:32:17
End at: 2019-02-12 13:32:47
Local clock offset: -0.598 ms
Remote clock offset: -0.745 ms

# Below is generated by plot.py at 2019-02-12 16:29:26
# Datalink statistics

-- Total of 1 flow:
Average throughput: 228.67 Mbit/s
95th percentile per-packet one-way delay: 57.043 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 228.67 Mbit/s
95th percentile per-packet one-way delay: 57.043 ms
Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link

![Graph 1](image1)

*Flow 1 ingress (mean 228.66 Mbit/s) — Flow 1 egress (mean 228.67 Mbit/s)*

![Graph 2](image2)

*Flow 1 (95th percentile 57.04 ms)*
Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 11:12:36
End at: 2019-02-12 11:13:06
Local clock offset: -0.503 ms
Remote clock offset: -0.89 ms

# Below is generated by plot.py at 2019-02-12 16:31:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 475.40 Mbit/s
95th percentile per-packet one-way delay: 57.902 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 475.40 Mbit/s
95th percentile per-packet one-way delay: 57.902 ms
Loss rate: 0.00%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput over time]
Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 11:46:29
End at: 2019-02-12 11:46:59
Local clock offset: -0.178 ms
Remote clock offset: 0.51 ms

# Below is generated by plot.py at 2019-02-12 16:38:40
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 473.89 Mbit/s
  95th percentile per-packet one-way delay: 58.865 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 473.89 Mbit/s
  95th percentile per-packet one-way delay: 58.865 ms
  Loss rate: 0.00%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 12:20:38
End at: 2019-02-12 12:21:08
Local clock offset: -0.603 ms
Remote clock offset: -0.694 ms

# Below is generated by plot.py at 2019-02-12 16:41:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 556.90 Mbit/s
95th percentile per-packet one-way delay: 58.397 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 556.90 Mbit/s
95th percentile per-packet one-way delay: 58.397 ms
Loss rate: 0.00%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 12:55:31
End at: 2019-02-12 12:56:01
Local clock offset: 0.227 ms
Remote clock offset: -0.652 ms

# Below is generated by plot.py at 2019-02-12 16:41:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 494.62 Mbit/s
95th percentile per-packet one-way delay: 57.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 494.62 Mbit/s
95th percentile per-packet one-way delay: 57.492 ms
Loss rate: 0.00%
Run 4: Report of TCP Vegas — Data Link

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[Graph showing throughput and packet delay over time]

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Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 13:28:55
End at: 2019-02-12 13:29:25
Local clock offset: 0.283 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-02-12 16:41:59
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 401.19 Mbit/s
  95th percentile per-packet one-way delay: 60.820 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 401.19 Mbit/s
  95th percentile per-packet one-way delay: 60.820 ms
  Loss rate: 0.01%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-02-12 11:20:02
End at: 2019-02-12 11:20:32
Local clock offset: -0.161 ms
Remote clock offset: -1.487 ms

# Below is generated by plot.py at 2019-02-12 16:41:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.35 Mbit/s
95th percentile per-packet one-way delay: 103.266 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 170.35 Mbit/s
95th percentile per-packet one-way delay: 103.266 ms
Loss rate: 0.04%
Run 2: Statistics of Verus

Start at: 2019-02-12 11:54:15
End at: 2019-02-12 11:54:45
Local clock offset: 0.175 ms
Remote clock offset: -0.55 ms

# Below is generated by plot.py at 2019-02-12 16:42:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 203.78 Mbit/s
95th percentile per-packet one-way delay: 217.441 ms
Loss rate: 8.75%
-- Flow 1:
Average throughput: 203.78 Mbit/s
95th percentile per-packet one-way delay: 217.441 ms
Loss rate: 8.75%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2019-02-12 12:28:48
End at: 2019-02-12 12:29:18
Local clock offset: -0.37 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-02-12 16:42:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 187.08 Mbit/s
95th percentile per-packet one-way delay: 119.805 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 187.08 Mbit/s
95th percentile per-packet one-way delay: 119.805 ms
Loss rate: 0.01%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2019-02-12 13:03:04
End at: 2019-02-12 13:03:34
Local clock offset: 0.068 ms
Remote clock offset: 0.623 ms

# Below is generated by plot.py at 2019-02-12 16:43:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 215.97 Mbit/s
95th percentile per-packet one-way delay: 217.404 ms
Loss rate: 9.84%
-- Flow 1:
Average throughput: 215.97 Mbit/s
95th percentile per-packet one-way delay: 217.404 ms
Loss rate: 9.84%
Run 4: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 240.38 Mbps)**
- **Flow 1 egress (mean 215.97 Mbps)**

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

- **Flow 1 (95th percentile 217.40 ms)**
Run 5: Statistics of Verus

Start at: 2019-02-12 13:36:47
End at: 2019-02-12 13:37:17
Local clock offset: -0.216 ms
Remote clock offset: -1.339 ms

# Below is generated by plot.py at 2019-02-12 16:44:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 168.38 Mbit/s
95th percentile per-packet one-way delay: 190.030 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 168.38 Mbit/s
95th percentile per-packet one-way delay: 190.030 ms
Loss rate: 2.40%
Run 5: Report of Verus — Data Link

Graph 1:
- Flow 1 ingress (mean 173.36 Mbit/s)
- Flow 1 egress (mean 168.38 Mbit/s)

Graph 2:
- Flow 1 (95th percentile 190.03 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 11:18:14
End at: 2019-02-12 11:18:44
Local clock offset: 0.181 ms
Remote clock offset: 1.057 ms

# Below is generated by plot.py at 2019-02-12 16:46:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 385.10 Mbit/s
95th percentile per-packet one-way delay: 62.668 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 385.10 Mbit/s
95th percentile per-packet one-way delay: 62.668 ms
Loss rate: 0.01%
Run 1: Report of PCC-Vivace — Data Link

![Graph showing network throughput and packet delay over time](image-url)
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 11:52:30
End at: 2019-02-12 11:53:00
Local clock offset: -0.153 ms
Remote clock offset: -0.878 ms

# Below is generated by plot.py at 2019-02-12 16:47:16
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 395.59 Mbit/s
  95th percentile per-packet one-way delay: 57.363 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 395.59 Mbit/s
  95th percentile per-packet one-way delay: 57.363 ms
  Loss rate: 0.00%
Run 2: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 395.59 Mbit/s)
- Flow 1 egress (mean 395.59 Mbit/s)

![Graph showing packet delay distribution](image-url)

Flow 1 (95th percentile 57.36 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 12:27:07
End at: 2019-02-12 12:27:37
Local clock offset: 0.167 ms
Remote clock offset: -1.425 ms

# Below is generated by plot.py at 2019-02-12 16:47:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 376.01 Mbit/s
95th percentile per-packet one-way delay: 55.982 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 376.01 Mbit/s
95th percentile per-packet one-way delay: 55.982 ms
Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 13:01:31
End at: 2019-02-12 13:02:01
Local clock offset: ~0.154 ms
Remote clock offset: ~1.329 ms

# Below is generated by plot.py at 2019-02-12 16:47:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 340.25 Mbit/s
95th percentile per-packet one-way delay: 56.321 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 340.25 Mbit/s
95th percentile per-packet one-way delay: 56.321 ms
Loss rate: 0.00%
Run 4: Report of PCC-Vivace — Data Link

[Graphs showing throughput and packet delay over time.]

Flow 1 ingress (mean 340.25 Mbit/s)  Flow 1 egress (mean 340.25 Mbit/s)

Flow 1 (95th percentile 56.32 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 13:35:05  
End at: 2019-02-12 13:35:35  
Local clock offset: 0.12 ms  
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2019-02-12 16:47:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 388.94 Mbit/s
95th percentile per-packet one-way delay: 57.529 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 388.94 Mbit/s
95th percentile per-packet one-way delay: 57.529 ms
Loss rate: 0.00%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-02-12 11:23:26
End at: 2019-02-12 11:23:56
Local clock offset: -0.181 ms
Remote clock offset: 1.338 ms

# Below is generated by plot.py at 2019-02-12 16:47:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

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

- Blue dashed line: Flow 1 ingress (mean 2.16 Mbps)
- Blue solid line: Flow 1 egress (mean 2.16 Mbps)

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

- Blue points: Flow 1 (95th percentile 58.82 ms)
Run 2: Statistics of WebRTC media

Start at: 2019-02-12 11:57:39
End at: 2019-02-12 11:58:09
Local clock offset: -0.183 ms
Remote clock offset: -0.869 ms

# Below is generated by plot.py at 2019-02-12 16:47:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.585 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.585 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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

- Throughput in Mbps
- Time in seconds
- Flow 1 ingress (mean 0.05 Mbps)
- Flow 1 egress (mean 0.05 Mbps)

![Graph showing packet latency over time](image)

- Packet latency in ms
- Time in seconds
- Flow 1 (90th percentile 56.59 ms)
Run 3: Statistics of WebRTC media

Start at: 2019-02-12 12:32:25
End at: 2019-02-12 12:32:55
Local clock offset: -0.03 ms
Remote clock offset: -0.761 ms

# Below is generated by plot.py at 2019-02-12 16:47:19
# Datalink statistics
-- Total of 1 flow:
   Average throughput: 0.05 Mbit/s
   95th percentile per-packet one-way delay: 56.405 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 0.05 Mbit/s
   95th percentile per-packet one-way delay: 56.405 ms
   Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

![Graph showing throughput and packet delay over time for WebRTC media data link with overlaying flow ingress and egress data.]
Run 4: Statistics of WebRTC media

Start at: 2019-02-12 13:06:13
End at: 2019-02-12 13:06:43
Local clock offset: -0.113 ms
Remote clock offset: 0.658 ms

# Below is generated by plot.py at 2019-02-12 16:47:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 58.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 58.199 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 2.17 Mbps)
  - Flow 1 egress (mean 2.17 Mbps)

- **Packet one-way delay (ms):**
  - Flow 1 (95th percentile 58.20 ms)
Run 5: Statistics of WebRTC media

Start at: 2019-02-12 13:40:21
End at: 2019-02-12 13:40:51
Local clock offset: -0.219 ms
Remote clock offset: -1.278 ms

# Below is generated by plot.py at 2019-02-12 16:47:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.104 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.104 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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

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

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

- Flow 1 (90th percentile 56.10 ms)