Pantheon Report

Data path: GCE London on **ens4** (*local*) → GCE Iowa on **ens4** (*remote*).
Repeated the test of 19 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 4.15.0-1025-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 @ c654af0b7d59d4ebf914cfc404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7e6a17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943abadc2b090d264fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143ceddbfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0edbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa864340a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866df58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af958fa0d66d18b623c091a55f0c872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f55613e8acd08f92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3c2f
third_party/scream-reproduce @ f099118d1421aa3131bf11ff9164974e1da3dbb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46a18c74f9415f9a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b4477a74c6c60a261149af2629562539f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE London to GCE Iowa, 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>535.76</td>
<td>156.99</td>
<td>0.89</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>298.28</td>
<td>58.96</td>
<td>0.01</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>477.20</td>
<td>136.83</td>
<td>0.14</td>
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<td>FillP</td>
<td>5</td>
<td>966.30</td>
<td>84.74</td>
<td>0.30</td>
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<td>FillP-Sheep</td>
<td>5</td>
<td>919.66</td>
<td>77.27</td>
<td>0.26</td>
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<td>Indigo</td>
<td>5</td>
<td>225.95</td>
<td>48.07</td>
<td>0.00</td>
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<td>Indigo-MusesD</td>
<td>5</td>
<td>624.75</td>
<td>69.12</td>
<td>0.02</td>
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<td>Indigo-MusesT</td>
<td>5</td>
<td>626.74</td>
<td>113.86</td>
<td>0.12</td>
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<td>LEDBAT</td>
<td>5</td>
<td>41.47</td>
<td>48.70</td>
<td>0.00</td>
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<tr>
<td>PCC-Allegro</td>
<td>5</td>
<td>428.44</td>
<td>173.23</td>
<td>4.98</td>
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<tr>
<td>PCC-Expr</td>
<td>5</td>
<td>309.39</td>
<td>153.45</td>
<td>3.44</td>
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<tr>
<td>QUIC Cubic</td>
<td>5</td>
<td>49.02</td>
<td>47.41</td>
<td>0.00</td>
</tr>
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<td>SCReAM</td>
<td>5</td>
<td>0.22</td>
<td>47.16</td>
<td>0.00</td>
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<tr>
<td>Sprout</td>
<td>5</td>
<td>9.61</td>
<td>47.70</td>
<td>0.00</td>
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<td>TaoVA-100x</td>
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<td>249.97</td>
<td>47.55</td>
<td>0.00</td>
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<td>TCP Vegas</td>
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<td>540.40</td>
<td>74.73</td>
<td>0.03</td>
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<td>Verus</td>
<td>5</td>
<td>168.01</td>
<td>133.02</td>
<td>0.54</td>
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<tr>
<td>PCC-Vivace</td>
<td>5</td>
<td>346.24</td>
<td>57.42</td>
<td>0.00</td>
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<td>WebRTC media</td>
<td>5</td>
<td>0.82</td>
<td>47.53</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2019-01-03 15:47:19
End at: 2019-01-03 15:47:49
Local clock offset: -0.27 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-03 18:18:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 518.54 Mbit/s
95th percentile per-packet one-way delay: 161.796 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 518.54 Mbit/s
95th percentile per-packet one-way delay: 161.796 ms
Loss rate: 0.61%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2019-01-03 16:14:53
End at: 2019-01-03 16:15:23
Local clock offset: -0.145 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-01-03 18:18:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 525.86 Mbit/s
95th percentile per-packet one-way delay: 156.659 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 525.86 Mbit/s
95th percentile per-packet one-way delay: 156.659 ms
Loss rate: 0.82%
Run 2: Report of TCP BBR — Data Link

![Throughput Graph](image1)

**Throughput (Kbps)**

*Flow 1 ingress (mean 530.22 Mbps)*  *Flow 1 egress (mean 525.86 Mbps)*

![Delay Graph](image2)

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

*Flow 1 (95th percentile 156.66 ms)*
Run 3: Statistics of TCP BBR

Start at: 2019-01-03 16:42:19
End at: 2019-01-03 16:42:49
Local clock offset: -0.061 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-01-03 18:18:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 537.02 Mbit/s
95th percentile per-packet one-way delay: 159.560 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 537.02 Mbit/s
95th percentile per-packet one-way delay: 159.560 ms
Loss rate: 1.02%
Run 3: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 542.56 Mbit/s)
- Flow 1 egress (mean 537.02 Mbit/s)

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

- Flow 1 (95th percentile 159.56 ms)
Run 4: Statistics of TCP BBR

Start at: 2019-01-03 17:09:28
End at: 2019-01-03 17:09:58
Local clock offset: -0.082 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-01-03 18:18:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 555.93 Mbit/s
95th percentile per-packet one-way delay: 149.726 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 555.93 Mbit/s
95th percentile per-packet one-way delay: 149.726 ms
Loss rate: 1.17%
Run 4: Report of TCP BBR — Data Link

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

**Throughput (Mbps)**
- Dashed line: Flow 1 ingress (mean 562.09 Mbps)
- Solid line: Flow 1 egress (mean 555.93 Mbps)

**Packet delay (ms)**
- Dotted line: Flow 1 (95th percentile 149.73 ms)
Run 5: Statistics of TCP BBR

Start at: 2019-01-03 17:37:18
End at: 2019-01-03 17:37:48
Local clock offset: -0.124 ms
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2019-01-03 18:18:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 541.43 Mbit/s
95th percentile per-packet one-way delay: 157.196 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 541.43 Mbit/s
95th percentile per-packet one-way delay: 157.196 ms
Loss rate: 0.85%
Run 5: Report of TCP BBR — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 546.66 Mbps)
- Flow 1 egress (mean 541.43 Mbps)

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

- Flow 1 (95th percentile 157.20 ms)
Run 1: Statistics of Copa

Start at: 2019-01-03 16:05:32
End at: 2019-01-03 16:06:02
Local clock offset: 0.108 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-01-03 18:18:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 294.12 Mbit/s
95th percentile per-packet one-way delay: 58.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 294.12 Mbit/s
95th percentile per-packet one-way delay: 58.206 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-01-03 16:33:01
End at: 2019-01-03 16:33:31
Local clock offset: ~0.051 ms
Remote clock offset: ~0.023 ms

# Below is generated by plot.py at 2019-01-03 18:18:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 289.68 Mbit/s
95th percentile per-packet one-way delay: 56.797 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 289.68 Mbit/s
95th percentile per-packet one-way delay: 56.797 ms
Loss rate: 0.07%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2019-01-03 17:00:32
End at: 2019-01-03 17:01:02
Local clock offset: 0.266 ms
Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2019-01-03 18:18:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 269.07 Mbit/s
95th percentile per-packet one-way delay: 59.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 269.07 Mbit/s
95th percentile per-packet one-way delay: 59.681 ms
Loss rate: 0.00%
Run 4: Statistics of Copa

Start at: 2019-01-03 17:27:57
End at: 2019-01-03 17:28:27
Local clock offset: -0.496 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2019-01-03 18:28:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 321.76 Mbit/s
95th percentile per-packet one-way delay: 61.769 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 321.76 Mbit/s
95th percentile per-packet one-way delay: 61.769 ms
Loss rate: 0.00%
Run 4: Report of Copa — Data Link

![Graph 1: Throughput vs Time (Mbps)](image1)
- Flow 1 ingress (mean 321.76 Mbit/s)
- Flow 1 egress (mean 321.76 Mbit/s)

![Graph 2: Per-packet one-way delay (ms)](image2)
- Flow 1 (95th percentile 61.77 ms)
Run 5: Statistics of Copa

Start at: 2019-01-03 17:55:41
End at: 2019-01-03 17:56:11
Local clock offset: -0.12 ms
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2019-01-03 18:28:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 316.77 Mbit/s
95th percentile per-packet one-way delay: 58.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 316.77 Mbit/s
95th percentile per-packet one-way delay: 58.368 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link

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

![Graph 2: Per Packet One Way Delay (ms)]
Run 1: Statistics of TCP Cubic

Start at: 2019-01-03 15:40:40  
End at: 2019-01-03 15:41:10  
Local clock offset: -0.224 ms  
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-01-03 18:28:18  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 588.86 Mbit/s  
95th percentile per-packet one-way delay: 143.054 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 588.86 Mbit/s  
95th percentile per-packet one-way delay: 143.054 ms  
Loss rate: 0.25%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2019-01-03 16:08:16
End at: 2019-01-03 16:08:46
Local clock offset: -0.276 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-01-03 18:28:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 539.46 Mbit/s
95th percentile per-packet one-way delay: 147.929 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 539.46 Mbit/s
95th percentile per-packet one-way delay: 147.929 ms
Loss rate: 0.19%
Run 2: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 540.48 Mbit/s)
- Flow 1 egress (mean 539.46 Mbit/s)

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

- Flow 1 (95th percentile 147.93 ms)
Run 3: Statistics of TCP Cubic

Start at: 2019-01-03 16:35:45
End at: 2019-01-03 16:36:15
Local clock offset: 0.337 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-01-03 18:28:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 593.31 Mbit/s
95th percentile per-packet one-way delay: 137.788 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 593.31 Mbit/s
95th percentile per-packet one-way delay: 137.788 ms
Loss rate: 0.20%
Run 3: Report of TCP Cubic — Data Link

- Throughput (Mbps)
- Time (s)

Flow 1 ingress (mean 594.52 Mbit/s) vs. Flow 1 egress (mean 593.31 Mbit/s)

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

Flow 1 (95th percentile 137.79 ms)
Run 4: Statistics of TCP Cubic

Start at: 2019-01-03 17:03:14
End at: 2019-01-03 17:03:44
Local clock offset: 0.283 ms
Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2019-01-03 18:28:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.99 Mbit/s
95th percentile per-packet one-way delay: 94.693 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 137.99 Mbit/s
95th percentile per-packet one-way delay: 94.693 ms
Loss rate: 0.00%
Run 4: Report of TCP Cubic — Data Link

![Graph 1: Throughput (Mbps)]

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

Start at: 2019-01-03 17:30:43
End at: 2019-01-03 17:31:13
Local clock offset: -0.176 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2019-01-03 18:28:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 526.39 Mbit/s
95th percentile per-packet one-way delay: 160.679 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 526.39 Mbit/s
95th percentile per-packet one-way delay: 160.679 ms
Loss rate: 0.06%
Run 5: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 526.74 Mbit/s)
- Flow 1 egress (mean 526.39 Mbit/s)

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

- Flow 1 (95th percentile 160.68 ms)
Run 1: Statistics of FillP

Start at: 2019-01-03 15:42:18
End at: 2019-01-03 15:42:48
Local clock offset: -0.21 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2019-01-03 18:37:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 998.71 Mbit/s
95th percentile per-packet one-way delay: 67.399 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 998.71 Mbit/s
95th percentile per-packet one-way delay: 67.399 ms
Loss rate: 0.26%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2019-01-03 16:09:50
End at: 2019-01-03 16:10:20
Local clock offset: -0.262 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-01-03 18:39:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1008.62 Mbit/s
95th percentile per-packet one-way delay: 68.219 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1008.62 Mbit/s
95th percentile per-packet one-way delay: 68.219 ms
Loss rate: 0.06%
Run 2: Report of FillP — Data Link

![Graph showing data link analysis](image)

**Throughput (Mbps):**
- Flow 1 ingress (mean 1009.26 Mbps)
- Flow 1 egress (mean 1008.62 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 68.22 ms)
Run 3: Statistics of FillP

Start at: 2019-01-03 16:37:20
End at: 2019-01-03 16:37:50
Local clock offset: -0.016 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-01-03 18:48:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 932.06 Mbit/s
95th percentile per-packet one-way delay: 96.713 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 932.06 Mbit/s
95th percentile per-packet one-way delay: 96.713 ms
Loss rate: 0.52%
Run 3: Report of FillP — Data Link

![Graph 1: Throughput vs Time]

- **Flow 1 Ingress (mean 936.93 Mb/s)**
- **Flow 1 Egress (mean 932.06 Mb/s)**

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

- **Flow 1 (95th percentile 96.71 ms)**
Run 4: Statistics of FillP

Start at: 2019-01-03 17:04:28
End at: 2019-01-03 17:04:58
Local clock offset: -0.105 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-01-03 18:48:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 943.17 Mbit/s
95th percentile per-packet one-way delay: 89.868 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 943.17 Mbit/s
95th percentile per-packet one-way delay: 89.868 ms
Loss rate: 0.20%
Run 4: Report of FillP — Data Link

![Graph showing throughput and packet delay over time for Flow 1.]

- Flow 1 ingress (mean 945.11 Mbit/s)
- Flow 1 egress (mean 943.17 Mbit/s)

- Flow 1 (95th percentile 89.87 ms)
Run 5: Statistics of FillP

Start at: 2019-01-03 17:32:16
End at: 2019-01-03 17:32:46
Local clock offset: -0.127 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2019-01-03 18:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 948.96 Mbit/s
95th percentile per-packet one-way delay: 101.482 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 948.96 Mbit/s
95th percentile per-packet one-way delay: 101.482 ms
Loss rate: 0.47%
Run 5: Report of FillP — Data Link
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-03 15:44:04
End at: 2019-01-03 15:44:34
Local clock offset: -0.199 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-01-03 18:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 906.60 Mbit/s
95th percentile per-packet one-way delay: 67.590 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 906.60 Mbit/s
95th percentile per-packet one-way delay: 67.590 ms
Loss rate: 0.23%
Run 1: Report of FillP-Sheep — Data Link

Throughput (Mb/s)

- Flow 1 ingress (mean 908.66 Mb/s)
- Flow 1 egress (mean 906.60 Mb/s)

Packet one way delay (ms)

- Flow 1 (95th percentile 67.59 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-03 16:11:37
End at: 2019-01-03 16:12:07
Local clock offset: -0.255 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-01-03 18:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 936.57 Mbit/s
95th percentile per-packet one-way delay: 70.063 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 936.57 Mbit/s
95th percentile per-packet one-way delay: 70.063 ms
Loss rate: 0.29%
Run 2: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 939.33 Mbps)
- Flow 1 egress (mean 936.57 Mbps)

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

- Flow 1 (95th percentile 70.66 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-03 16:39:03
End at: 2019-01-03 16:39:33
Local clock offset: -0.016 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-01-03 18:48:44
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 888.14 Mbit/s
  95th percentile per-packet one-way delay: 81.951 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 888.14 Mbit/s
  95th percentile per-packet one-way delay: 81.951 ms
  Loss rate: 0.07%
Run 3: Report of FillP-Sheep — Data Link

[Graph 1: Throughput vs Time (Mbps)]

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

- Flow 1 ingress (mean 888.79 Mbps)
- Flow 1 egress (mean 888.14 Mbps)

- Flow 1 (95th percentile 81.95 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-03 17:06:12
End at: 2019-01-03 17:06:42
Local clock offset: -0.093 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2019-01-03 19:00:15
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 924.96 Mbit/s
  95th percentile per-packet one-way delay: 93.885 ms
  Loss rate: 0.60%
-- Flow 1:
  Average throughput: 924.96 Mbit/s
  95th percentile per-packet one-way delay: 93.885 ms
  Loss rate: 0.60%
Run 4: Report of FillP-Sheep — Data Link

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

- **Flow 1 ingress (mean 930.60 Mb/s)**
- **Flow 1 egress (mean 924.96 Mb/s)**

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

- **Flow 1 (95th percentile 93.89 ms)**
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-03 17:34:00
End at: 2019-01-03 17:34:30
Local clock offset: -0.14 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 942.05 Mbit/s
95th percentile per-packet one-way delay: 72.841 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 942.05 Mbit/s
95th percentile per-packet one-way delay: 72.841 ms
Loss rate: 0.09%
Run 5: Report of FillP-Sheep — Data Link

![Graph 1: Throughput](image1)

- Flow 1 ingress (mean 942.90 Mb/s)
- Flow 1 egress (mean 942.05 Mb/s)

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

- Flow 1 (95th percentile 72.84 ms)
Run 1: Statistics of Indigo

Start at: 2019-01-03 15:55:35
End at: 2019-01-03 15:56:05
Local clock offset: -0.235 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 197.09 Mbit/s
95th percentile per-packet one-way delay: 48.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 197.09 Mbit/s
95th percentile per-packet one-way delay: 48.063 ms
Loss rate: 0.00%
Run 1: Report of Indigo — Data Link

![Graph showing throughput over time]

**Throughput (Mbit/s)**

0 5 10 15 20 25

Time (s)

---

**Flow 1 ingress (mean 197.09 Mbit/s)**

**Flow 1 egress (mean 197.09 Mbit/s)**

---

![Graph showing packet delay over time]

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

0 5 10 15 20 25

Time (s)

---

**Flow 1 (95th percentile 48.06 ms)**
Run 2: Statistics of Indigo

Start at: 2019-01-03 16:23:07
End at: 2019-01-03 16:23:37
Local clock offset: -0.097 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.62 Mbit/s
95th percentile per-packet one-way delay: 48.159 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 218.62 Mbit/s
95th percentile per-packet one-way delay: 48.159 ms
Loss rate: 0.00%
Run 2: Report of Indigo — Data Link

![Throughput Graph]

- **Flow 1 ingress** (mean 218.62 Mbit/s)
- **Flow 1 egress** (mean 218.62 Mbit/s)

![Per-packet delay Graph]

- **Flow 1** (95th percentile 48.16 ms)
Run 3: Statistics of Indigo

Start at: 2019-01-03 16:50:36
End at: 2019-01-03 16:51:06
Local clock offset: 0.305 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 234.90 Mbit/s
95th percentile per-packet one-way delay: 47.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 234.90 Mbit/s
95th percentile per-packet one-way delay: 47.457 ms
Loss rate: 0.00%
Run 3: Report of Indigo — Data Link

[Graph showing throughput over time with two lines indicating ingress and egress traffic]

[Graph showing packet delay with a line indicating 95th percentile delay]

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Run 4: Statistics of Indigo

Start at: 2019-01-03 17:17:56
End at: 2019-01-03 17:18:26
Local clock offset: -0.077 ms
Remote clock offset: 0.081 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 241.06 Mbit/s
95th percentile per-packet one-way delay: 48.108 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 241.06 Mbit/s
95th percentile per-packet one-way delay: 48.108 ms
Loss rate: 0.00%
Run 4: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 241.06 Mbit/s)
- Flow 1 egress (mean 241.06 Mbit/s)

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

- Flow 1 (95th percentile 48.11 ms)
Run 5: Statistics of Indigo

Start at: 2019-01-03 17:45:40
End at: 2019-01-03 17:46:10
Local clock offset: -0.135 ms
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 238.07 Mbit/s
95th percentile per-packet one-way delay: 48.581 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 238.07 Mbit/s
95th percentile per-packet one-way delay: 48.581 ms
Loss rate: 0.00%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-03 16:03:54
End at: 2019-01-03 16:04:25
Local clock offset: -0.287 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-01-03 19:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 622.66 Mbit/s
95th percentile per-packet one-way delay: 67.934 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 622.66 Mbit/s
95th percentile per-packet one-way delay: 67.934 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesD — Data Link
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-03 16:31:25
End at: 2019-01-03 16:31:55
Local clock offset: -0.049 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2019-01-03 19:06:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 618.19 Mbit/s
95th percentile per-packet one-way delay: 67.539 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 618.19 Mbit/s
95th percentile per-packet one-way delay: 67.539 ms
Loss rate: 0.03%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-03 16:58:56
End at: 2019-01-03 16:59:26
Local clock offset: -0.094 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-01-03 19:07:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 617.91 Mbit/s
95th percentile per-packet one-way delay: 69.498 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 617.91 Mbit/s
95th percentile per-packet one-way delay: 69.498 ms
Loss rate: 0.02%
Run 3: Report of Indigo-MusesD — Data Link

![Graph 1: Throughput Analysis](image1)

- Flow 1 ingress (mean 618.04 Mbit/s)
- Flow 1 egress (mean 617.91 Mbit/s)

![Graph 2: Packet Loss and Delay Analysis](image2)

- Flow 1 (95th percentile 69.50 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-03 17:26:19
End at: 2019-01-03 17:26:49
Local clock offset: -0.126 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2019-01-03 19:08:09
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 625.96 Mbit/s
  95th percentile per-packet one-way delay: 71.583 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 625.96 Mbit/s
  95th percentile per-packet one-way delay: 71.583 ms
  Loss rate: 0.06%
Run 4: Report of Indigo-MusesD — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-03 17:54:03
End at: 2019-01-03 17:54:34
Local clock offset: -0.107 ms
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2019-01-03 19:08:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 639.03 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 639.03 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 0.01%
Run 5: Report of Indigo-MusesD — Data Link

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

- **Flow 1 ingress** (mean 639.07 Mbps)
- **Flow 1 egress** (mean 639.03 Mbps)

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

- **Flow 1** (95th percentile 69.06 ms)
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-03 15:56:59
End at: 2019-01-03 15:57:29
Local clock offset: -0.275 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-01-03 19:08:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 647.43 Mbit/s
95th percentile per-packet one-way delay: 110.858 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 647.43 Mbit/s
95th percentile per-packet one-way delay: 110.858 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesT — Data Link

![Throughput Graph](image1)

- **Flow 1 ingress (mean 647.42 Mbit/s)**
- **Flow 1 egress (mean 647.43 Mbit/s)**

![Latency Graph](image2)

- **Flow 1 (95th percentile 110.86 ms)**

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Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-03 16:24:34
End at: 2019-01-03 16:25:04
Local clock offset: -0.057 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-01-03 19:10:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 576.51 Mbit/s
95th percentile per-packet one-way delay: 112.338 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 576.51 Mbit/s
95th percentile per-packet one-way delay: 112.338 ms
Loss rate: 0.13%
Run 2: Report of Indigo-MusesT — Data Link

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

![Graph 2: Packet Delay vs. Time](image2)
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-03 16:52:03
End at: 2019-01-03 16:52:33
Local clock offset: -0.093 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-03 19:12:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 635.62 Mbit/s
95th percentile per-packet one-way delay: 115.058 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 635.62 Mbit/s
95th percentile per-packet one-way delay: 115.058 ms
Loss rate: 0.14%
Run 3: Report of Indigo-MusesT — Data Link
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-03 17:19:24
End at: 2019-01-03 17:19:54
Local clock offset: -0.068 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2019-01-03 19:14:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 648.80 Mbit/s
95th percentile per-packet one-way delay: 114.971 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 648.80 Mbit/s
95th percentile per-packet one-way delay: 114.971 ms
Loss rate: 0.18%
Run 4: Report of Indigo-MusesT — Data Link

![Graph showing throughput and packet delay over time]

**Graph Details:**
- **Throughput (Mbps):**
  - X-axis: Time (s)
  - Y-axis: Throughput (Mbps)
  - Data points show fluctuations in throughput over time.
- **Packet Delay (ms):**
  - X-axis: Time (s)
  - Y-axis: Packet delay (ms)
  - Data points indicate variability in packet delay, with occasional spikes.

**Legend:**
- Flow 1 ingress (mean 649.99 Mbit/s)
- Flow 1 egress (mean 648.80 Mbit/s)
- Flow 1 (95th percentile 114.97 ms)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-03 17:47:08
End at: 2019-01-03 17:47:38
Local clock offset: -0.128 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 625.36 Mbit/s
95th percentile per-packet one-way delay: 116.081 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 625.36 Mbit/s
95th percentile per-packet one-way delay: 116.081 ms
Loss rate: 0.13%
Run 5: Report of Indigo-MusesT — Data Link

![Graph showing throughput and delay over time](image-url)
Run 1: Statistics of LEDBAT

Start at: 2019-01-03 16:07:05
End at: 2019-01-03 16:07:35
Local clock offset: -0.24 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.14 Mbit/s
95th percentile per-packet one-way delay: 48.755 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.14 Mbit/s
95th percentile per-packet one-way delay: 48.755 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-01-03 16:34:34
End at: 2019-01-03 16:35:04
Local clock offset: 0.025 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.24 Mbit/s
95th percentile per-packet one-way delay: 48.779 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.24 Mbit/s
95th percentile per-packet one-way delay: 48.779 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

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

![Graph 2: Per-packet one-way delay (ms)](image2)
Run 3: Statistics of LEDBAT

Start at: 2019-01-03 17:02:03
End at: 2019-01-03 17:02:33
Local clock offset: -0.056 ms
Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.27 Mbit/s
95th percentile per-packet one-way delay: 48.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.27 Mbit/s
95th percentile per-packet one-way delay: 48.928 ms
Loss rate: 0.00%
Run 4: Statistics of LEDBAT

Start at: 2019-01-03 17:29:32
End at: 2019-01-03 17:30:02
Local clock offset: 0.265 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.14 Mbit/s
95th percentile per-packet one-way delay: 48.699 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.14 Mbit/s
95th percentile per-packet one-way delay: 48.699 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

![Graph of Throughput vs Time showing Flow 1 ingress (mean 41.14 Mbit/s) and Flow 1 egress (mean 41.14 Mbit/s).]

![Graph of Per Packet One Way Delay showing Flow 1 (95th percentile 48.30 ms).]
Run 5: Statistics of LEDBAT

Start at: 2019-01-03 17:57:17
End at: 2019-01-03 17:57:47
Local clock offset: ~0.09 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-01-03 19:15:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.58 Mbit/s
95th percentile per-packet one-way delay: 48.336 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.58 Mbit/s
95th percentile per-packet one-way delay: 48.336 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

![Graph showing throughput over time for Flow 1 ingress (mean 42.58 Mbit/s) and Flow 1 egress (mean 42.58 Mbit/s).]

![Graph showing per-packet one-way delay over time for Flow 1 (95th percentile 48.34 ms).]
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-03 15:48:52
End at: 2019-01-03 15:49:22
Local clock offset: -0.258 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-01-03 19:26:20
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 458.02 Mbit/s
  95th percentile per-packet one-way delay: 163.667 ms
  Loss rate: 4.74%
-- Flow 1:
  Average throughput: 458.02 Mbit/s
  95th percentile per-packet one-way delay: 163.667 ms
  Loss rate: 4.74%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-03 16:16:26
End at: 2019-01-03 16:16:56
Local clock offset: -0.148 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-01-03 19:26:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 399.22 Mbit/s
95th percentile per-packet one-way delay: 170.336 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 399.22 Mbit/s
95th percentile per-packet one-way delay: 170.336 ms
Loss rate: 2.36%
Run 2: Report of PCC-Allegro — Data Link

![Graph showing throughput and one-way delay over time with markers for Flow 1 ingress and egress]

- Flow 1 ingress (mean 408.88 Mbit/s)
- Flow 1 egress (mean 399.22 Mbit/s)

![Graph showing packet delay with a marker for Flow 1 (95th percentile 170.34 ms)]
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-03 16:43:54
End at: 2019-01-03 16:44:24
Local clock offset: -0.027 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-01-03 19:26:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 405.94 Mbit/s
95th percentile per-packet one-way delay: 181.584 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 405.94 Mbit/s
95th percentile per-packet one-way delay: 181.584 ms
Loss rate: 5.38%
Run 3: Report of PCC-Allegro — Data Link

![Graph 1: Throughput over time](image1)

*Flow 1 ingress (mean 429.64 Mbit/s)  Flow 1 egress (mean 405.94 Mbit/s)*

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

*Flow 1 (95th percentile 181.58 ms)*
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-03 17:11:05
End at: 2019-01-03 17:11:35
Local clock offset: ~0.084 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2019-01-03 19:26:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 449.63 Mbit/s
95th percentile per-packet one-way delay: 181.689 ms
Loss rate: 8.96%
-- Flow 1:
Average throughput: 449.63 Mbit/s
95th percentile per-packet one-way delay: 181.689 ms
Loss rate: 8.96%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-03 17:38:54
End at: 2019-01-03 17:39:24
Local clock offset: -0.126 ms
Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2019-01-03 19:26:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 429.39 Mbit/s
95th percentile per-packet one-way delay: 168.866 ms
Loss rate: 3.44%
-- Flow 1:
Average throughput: 429.39 Mbit/s
95th percentile per-packet one-way delay: 168.866 ms
Loss rate: 3.44%
Run 5: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress** (mean 444.69 Mbit/s)
- **Flow 1 egress** (mean 429.39 Mbit/s)

- **Flow 1 (95th percentile 168.87 ms)**
Run 1: Statistics of PCC-Expr

Start at: 2019-01-03 15:45:47
End at: 2019-01-03 15:46:17
Local clock offset: -0.221 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-01-03 19:26:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.93 Mbit/s
95th percentile per-packet one-way delay: 154.035 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 285.93 Mbit/s
95th percentile per-packet one-way delay: 154.035 ms
Loss rate: 1.43%
Run 1: Report of PCC-Expr — Data Link

![Graph showing throughput and packet delay over time for flow 1. The graph indicates a peak throughput of approximately 290.09 Mbps and an egress rate of about 285.93 Mbps. The packet delay has a 95th percentile of 154.03 ms.]
Run 2: Statistics of PCC-Expr

Start at: 2019-01-03 16:13:20
End at: 2019-01-03 16:13:50
Local clock offset: 0.188 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-01-03 19:26:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 304.37 Mbit/s
95th percentile per-packet one-way delay: 155.902 ms
Loss rate: 6.29%
-- Flow 1:
Average throughput: 304.37 Mbit/s
95th percentile per-packet one-way delay: 155.902 ms
Loss rate: 6.29%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2019-01-03 16:40:43
End at: 2019-01-03 16:41:13
Local clock offset: -0.388 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-01-03 19:28:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 331.47 Mbit/s
95th percentile per-packet one-way delay: 155.782 ms
Loss rate: 4.20%
-- Flow 1:
Average throughput: 331.47 Mbit/s
95th percentile per-packet one-way delay: 155.782 ms
Loss rate: 4.20%
Run 3: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 346.01 Mbit/s)
- Flow 1 egress (mean 331.47 Mbit/s)

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

- Flow 1 (95th percentile 155.78 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-01-03 17:07:55  
End at: 2019-01-03 17:08:25  
Local clock offset: ~0.069 ms  
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2019-01-03 19:31:17  
# Datalink statistics

-- Total of 1 flow:  
Average throughput: 307.10 Mbit/s  
95th percentile per-packet one-way delay: 143.727 ms  
Loss rate: 0.22%

-- Flow 1:  
Average throughput: 307.10 Mbit/s  
95th percentile per-packet one-way delay: 143.727 ms  
Loss rate: 0.22%
Run 4: Report of PCC-Expr — Data Link
Run 5: Statistics of PCC-Expr

Start at: 2019-01-03 17:35:43
End at: 2019-01-03 17:36:13
Local clock offset: -0.137 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 318.09 Mbit/s
95th percentile per-packet one-way delay: 157.795 ms
Loss rate: 5.05%
-- Flow 1:
Average throughput: 318.09 Mbit/s
95th percentile per-packet one-way delay: 157.795 ms
Loss rate: 5.05%
Run 5: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 335.02 Mbit/s)
- Flow 1 egress (mean 318.09 Mbit/s)

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

- Flow 1 (95th percentile 157.79 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 15:53:04
End at: 2019-01-03 15:53:34
Local clock offset: -0.213 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.78 Mbit/s
95th percentile per-packet one-way delay: 46.895 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.78 Mbit/s
95th percentile per-packet one-way delay: 46.895 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-03 16:20:31
End at: 2019-01-03 16:21:01
Local clock offset: -0.118 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.07 Mbit/s
95th percentile per-packet one-way delay: 47.686 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.07 Mbit/s
95th percentile per-packet one-way delay: 47.686 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

![Graph showing throughput and packet delay over time. The graph indicates variations in throughput and packet delay, with both showing peaks and valleys throughout the time period.]
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-03 16:48:04
End at: 2019-01-03 16:48:34
Local clock offset: -0.09 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.64 Mbit/s
95th percentile per-packet one-way delay: 47.628 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.64 Mbit/s
95th percentile per-packet one-way delay: 47.628 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 51.64 Mbps)
  - Flow 1 egress (mean 51.64 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 47.63 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-03 17:15:24
End at: 2019-01-03 17:15:54
Local clock offset: -0.101 ms
Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.78 Mbit/s
95th percentile per-packet one-way delay: 47.449 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.78 Mbit/s
95th percentile per-packet one-way delay: 47.449 ms
Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-03 17:43:09
End at: 2019-01-03 17:43:39
Local clock offset: -0.128 ms
Remote clock offset: 0.067 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 47.377 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 47.377 ms
Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-01-03 16:00:05
End at: 2019-01-03 16:00:35
Local clock offset: -0.231 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.507 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

[Graphs showing throughput and packet delay over time.]
Run 2: Statistics of SCReAM

Start at: 2019-01-03 16:27:36
End at: 2019-01-03 16:28:06
Local clock offset: 0.301 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.356 ms
Loss rate: 0.00%
Run 3: Statistics of SCReAM

Start at: 2019-01-03 16:55:08
End at: 2019-01-03 16:55:38
Local clock offset: -0.125 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2019-01-03 19:35:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.502 ms
Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link

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

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

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

- **Flow 1 (95th percentile 47.50 ms)**
Run 4: Statistics of SCReAM

Start at: 2019-01-03 17:22:30
End at: 2019-01-03 17:23:00
Local clock offset: -0.098 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.980 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-01-03 17:50:13
End at: 2019-01-03 17:50:43
Local clock offset: -0.136 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.466 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.466 ms
  Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

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

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

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

- Flow 1 (95th percentile 47.47 ms)
Run 1: Statistics of Sprout

Start at: 2019-01-03 16:01:12
End at: 2019-01-03 16:01:42
Local clock offset: -0.243 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 47.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 47.929 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 9.62 Mbps/s)
- Flow 1 egress (mean 9.62 Mbps/s)

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

- Flow 1 (95th percentile 47.93 ms)
Run 2: Statistics of Sprout

Start at: 2019-01-03 16:28:43
End at: 2019-01-03 16:29:13
Local clock offset: -0.009 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 47.943 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 47.943 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-01-03 16:56:16
End at: 2019-01-03 16:56:46
Local clock offset: 0.282 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 46.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 46.795 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 9.63 Mbit/s)**
- **Flow 1 egress (mean 9.63 Mbit/s)**

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

- **Flow 1 (95th percentile 46.00 ms)**
Run 4: Statistics of Sprout

Start at: 2019-01-03 17:23:37
End at: 2019-01-03 17:24:07
Local clock offset: 0.217 ms
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 47.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 47.429 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

![Graph 2: Per-packet one way delay (ms)](image2)
Run 5: Statistics of Sprout

Start at: 2019-01-03 17:51:21
End at: 2019-01-03 17:51:51
Local clock offset: -0.511 ms
Remote clock offset: 0.074 ms

# Below is generated by plot.py at 2019-01-03 19:35:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 48.426 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 48.426 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link

![Graph of Throughput (Mbit/s) over time](image)

*Flow 1 ingress (mean 9.64 Mbit/s)  Flow 1 egress (mean 9.64 Mbit/s)*

![Graph of Average Packet Delivery Delay over time](image)

*Flow 1 (95th percentile 48.43 ms)*
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-03 15:58:36
End at: 2019-01-03 15:59:06
Local clock offset: -0.249 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-01-03 19:36:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 251.03 Mbit/s
95th percentile per-packet one-way delay: 46.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 251.03 Mbit/s
95th percentile per-packet one-way delay: 46.808 ms
Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2019-01-03 16:26:08
End at: 2019-01-03 16:26:38
Local clock offset: -0.053 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-01-03 19:36:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.21 Mbit/s
95th percentile per-packet one-way delay: 47.763 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 247.21 Mbit/s
95th percentile per-packet one-way delay: 47.763 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

```
Flow 1 ingress (mean 247.20 Mbit/s)  Flow 1 egress (mean 247.21 Mbit/s)
```

```
Flow 1 (95th percentile 47.76 ms)
```

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Run 3: Statistics of TaoVA-100x

Start at: 2019-01-03 16:53:39
End at: 2019-01-03 16:54:09
Local clock offset: -0.062 ms
Remote clock offset: 0.061 ms

# Below is generated by plot.py at 2019-01-03 19:36:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.35 Mbit/s
95th percentile per-packet one-way delay: 47.630 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 248.35 Mbit/s
95th percentile per-packet one-way delay: 47.630 ms
Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link

![Graphs showing throughput and packet delay over time.](image-url)
Run 4: Statistics of TaoVA-100x

Start at: 2019-01-03 17:21:01
End at: 2019-01-03 17:21:31
Local clock offset: -0.099 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2019-01-03 19:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 250.51 Mbit/s
95th percentile per-packet one-way delay: 47.716 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 250.51 Mbit/s
95th percentile per-packet one-way delay: 47.716 ms
Loss rate: 0.00%
Run 4: Report of TaoVA-100x — Data Link

![Graph of Throughput and Delay]

- **Flow 1 ingress (mean 250.51 Mbit/s)**
- **Flow 1 egress (mean 250.51 Mbit/s)**

- **Flow 1 (95th percentile 47.72 ms)**
Run 5: Statistics of TaoVA-100x

Start at: 2019-01-03 17:48:44
End at: 2019-01-03 17:49:14
Local clock offset: -0.115 ms
Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2019-01-03 19:36:45
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 252.77 Mbit/s
  95th percentile per-packet one-way delay: 47.812 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 252.77 Mbit/s
  95th percentile per-packet one-way delay: 47.812 ms
  Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link

[Graphs showing network performance metrics for Flow 1 ingress and egress, with throughput and packet delay data over time.]

[Graph showing 95th percentile delay of 47.81 ms for Flow 1.]
Run 1: Statistics of TCP Vegas

Start at: 2019-01-03 16:02:21
End at: 2019-01-03 16:02:51
Local clock offset: -0.293 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-01-03 19:38:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 527.95 Mbit/s
95th percentile per-packet one-way delay: 77.248 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 527.95 Mbit/s
95th percentile per-packet one-way delay: 77.248 ms
Loss rate: 0.01%
Run 1: Report of TCP Vegas — Data Link

![Graph of throughput and packet delay over time]

- **Flow 1 ingress** (mean 528.00 Mbit/s)
- **Flow 1 egress** (mean 527.95 Mbit/s)

![Graph of packet delay over time]

- **Flow 1 (95th percentile 77.25 ms)**
Run 2: Statistics of TCP Vegas

Start at: 2019-01-03 16:29:52
End at: 2019-01-03 16:30:22
Local clock offset: -0.028 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2019-01-03 19:42:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 547.29 Mbit/s
95th percentile per-packet one-way delay: 65.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 547.29 Mbit/s
95th percentile per-packet one-way delay: 65.663 ms
Loss rate: 0.00%
Run 2: Report of TCP Vegas — Data Link

![Graph showing throughput and delay metrics over time. The graph displays two plots: one showing throughput in Mbps and another showing packet one-way delay in milliseconds. The throughput plot indicates variations over time, with peaks and troughs, while the delay plot shows fluctuating delays. The graphs are labeled with flow metrics such as 'Flow 1 ingress (mean 547.29 Mbit/s)' and 'Flow 1 egress (mean 547.29 Mbit/s)' for throughput and 'Flow 1 (95th percentile 65.66 ms)' for delay.]
Run 3: Statistics of TCP Vegas

Start at: 2019-01-03 16:57:24
End at: 2019-01-03 16:57:54
Local clock offset: -0.11 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2019-01-03 19:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 527.06 Mbit/s
95th percentile per-packet one-way delay: 69.318 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 527.06 Mbit/s
95th percentile per-packet one-way delay: 69.318 ms
Loss rate: 0.05%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-01-03 17:24:46  
End at: 2019-01-03 17:25:16  
Local clock offset: 0.243 ms  
Remote clock offset: 0.059 ms

# Below is generated by plot.py at 2019-01-03 19:47:00  
# Datalink statistics

-- Total of 1 flow:
Average throughput: 547.61 Mbit/s
95th percentile per-packet one-way delay: 94.676 ms
Loss rate: 0.01%

-- Flow 1:
Average throughput: 547.61 Mbit/s
95th percentile per-packet one-way delay: 94.676 ms
Loss rate: 0.01%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-01-03 17:52:29  
End at: 2019-01-03 17:52:59  
Local clock offset: 0.251 ms  
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2019-01-03 19:47:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 552.09 Mbit/s  
95th percentile per-packet one-way delay: 66.751 ms  
Loss rate: 0.07%  
-- Flow 1:  
Average throughput: 552.09 Mbit/s  
95th percentile per-packet one-way delay: 66.751 ms  
Loss rate: 0.07%
Run 5: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 552.49 Mbit/s)**
- **Flow 1 egress (mean 552.09 Mbit/s)**

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

- **Flow 1 (95th percentile 66.75 ms)**
Run 1: Statistics of Verus

Start at: 2019-01-03 15:54:13
End at: 2019-01-03 15:54:43
Local clock offset: -0.288 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-01-03 19:47:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 163.53 Mbit/s
95th percentile per-packet one-way delay: 106.859 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 163.53 Mbit/s
95th percentile per-packet one-way delay: 106.859 ms
Loss rate: 1.47%
Run 2: Statistics of Verus

Start at: 2019-01-03 16:21:42
End at: 2019-01-03 16:22:12
Local clock offset: -0.055 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-01-03 19:47:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 194.23 Mbit/s
95th percentile per-packet one-way delay: 123.232 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 194.23 Mbit/s
95th percentile per-packet one-way delay: 123.232 ms
Loss rate: 0.11%
Run 3: Statistics of Verus

Start at: 2019-01-03 16:49:14
End at: 2019-01-03 16:49:44
Local clock offset: -0.072 ms
Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2019-01-03 19:47:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 156.17 Mbit/s
95th percentile per-packet one-way delay: 107.051 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 156.17 Mbit/s
95th percentile per-packet one-way delay: 107.051 ms
Loss rate: 0.28%
Run 3: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 156.61 Mbit/s)**
- **Flow 1 egress (mean 156.17 Mbit/s)**

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

- **Flow 1 (95th percentile 107.05 ms)**
Run 4: Statistics of Verus

Start at: 2019-01-03 17:16:34
End at: 2019-01-03 17:17:04
Local clock offset: -0.129 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2019-01-03 19:47:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 164.24 Mbit/s
95th percentile per-packet one-way delay: 159.294 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 164.24 Mbit/s
95th percentile per-packet one-way delay: 159.294 ms
Loss rate: 0.56%
Run 4: Report of Verus — Data Link

[Graphs showing network performance metrics over time]
Run 5: Statistics of Verus

Start at: 2019-01-03 17:44:19
End at: 2019-01-03 17:44:49
Local clock offset: -0.119 ms
Remote clock offset: 0.056 ms

# Below is generated by plot.py at 2019-01-03 19:48:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 161.89 Mbit/s
95th percentile per-packet one-way delay: 168.678 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 161.89 Mbit/s
95th percentile per-packet one-way delay: 168.678 ms
Loss rate: 0.28%
Run 5: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 162.35 Mbps)**
- **Flow 1 egress (mean 161.89 Mbps)**

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

- **Flow 1 (95th percentile 168.68 ms)**
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-03 15:50:29
End at: 2019-01-03 15:50:59
Local clock offset: -0.208 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-01-03 19:48:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 306.22 Mbit/s
95th percentile per-packet one-way delay: 77.364 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 306.22 Mbit/s
95th percentile per-packet one-way delay: 77.364 ms
Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-03 16:17:58
End at: 2019-01-03 16:18:28
Local clock offset: -0.118 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-01-03 19:48:16
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 276.26 Mbit/s
  95th percentile per-packet one-way delay: 49.256 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 276.26 Mbit/s
  95th percentile per-packet one-way delay: 49.256 ms
  Loss rate: 0.00%
Run 2: Report of PCC-Vivace — Data Link

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

Start at: 2019-01-03 16:45:27
End at: 2019-01-03 16:45:57
Local clock offset: -0.036 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-01-03 19:48:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.87 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 349.87 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-03 17:12:42
End at: 2019-01-03 17:13:12
Local clock offset: -0.108 ms
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2019-01-03 19:49:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 409.93 Mbit/s
95th percentile per-packet one-way delay: 47.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 409.93 Mbit/s
95th percentile per-packet one-way delay: 47.855 ms
Loss rate: 0.00%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-03 17:40:28
End at: 2019-01-03 17:40:59
Local clock offset: -0.214 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 388.92 Mbit/s
95th percentile per-packet one-way delay: 61.711 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 388.92 Mbit/s
95th percentile per-packet one-way delay: 61.711 ms
Loss rate: 0.00%
Run 5: Report of PCC-Vivace — Data Link

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

- **Flow 1 ingress (mean 889.92 Mbit/s)**
- **Flow 1 egress (mean 889.92 Mbit/s)**

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

- **Flow 1 (95th percentile 61.71 ms)**
Run 1: Statistics of WebRTC media

Start at: 2019-01-03 15:51:57
End at: 2019-01-03 15:52:27
Local clock offset: -0.255 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.476 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.476 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

[Graph showing throughput over time for two flows: 1 ingress and 1 egress with mean 0.05 Mbit/s each.]

[Graph showing per-packet one-way delay over time for a flow with 95th percentile delay of 47.48 ms.]
Run 2: Statistics of WebRTC media

Start at: 2019-01-03 16:19:24
End at: 2019-01-03 16:19:54
Local clock offset: -0.129 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 47.572 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 47.572 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-01-03 16:46:57
End at: 2019-01-03 16:47:27
Local clock offset: -0.052 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.717 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.717 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-01-03 17:14:16
End at: 2019-01-03 17:14:46
Local clock offset: -0.444 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 47.934 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 47.934 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2019-01-03 17:42:01
End at: 2019-01-03 17:42:31
Local clock offset: -0.12 ms
Remote clock offset: 0.118 ms

# Below is generated by plot.py at 2019-01-03 19:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 47.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 47.928 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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