Pantheon Report

Generated at 2019-03-19 00:44:56 (UTC).
Data path: AWS Korea on ens5 (local) → China on eno1 (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 ntp.nict.jp and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1031-aws
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 @ d6a1459332fcee56968385d7eba17e9a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbef58e562f4
third_party/indigo @ 2601c92e495d838dc4dfe0edbf99c077e64d
third_party/libutp @ b3465b94e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da209655337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 5aaf958fa0d66d18b23c91a55f8c872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M receiver/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e343f5f56138a380f242b24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ec978f3cf42
third_party/scream-reproduce @ 0f9918d1421aa3131bf11ff964974e1da3b6b2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a6d18c74f915f9a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutcomm.cc
third_party/verus @ f4b447ae74c6b60a261949af263295629939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
test from AWS Korea to China, 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>49.99</td>
<td>128.14</td>
<td>10.67</td>
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<td>Copa</td>
<td>4</td>
<td>12.47</td>
<td>49.17</td>
<td>60.72</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>56.19</td>
<td>123.77</td>
<td>1.08</td>
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<td>FillP</td>
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<td>93.85</td>
<td>61.98</td>
<td>0.62</td>
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<td>FillP-Sheep</td>
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<td>92.18</td>
<td>63.91</td>
<td>0.64</td>
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<td>Indigo</td>
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<td>72.38</td>
<td>62.01</td>
<td>7.57</td>
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<td>Indigo-MusesC3</td>
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<td>0.00</td>
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<td>0.00</td>
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<td>65.59</td>
<td>0.79</td>
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<td>55.00</td>
<td>0.00</td>
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<td>N/A</td>
<td>N/A</td>
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<td>PCC-Expr</td>
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<td>N/A</td>
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<td>QUIC Cubic</td>
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<td>65.16</td>
<td>113.98</td>
<td>0.00</td>
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<td>5</td>
<td>0.22</td>
<td>52.44</td>
<td>0.00</td>
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<td>56.24</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>66.71</td>
<td>0.67</td>
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<td>Verus</td>
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<td>71.83</td>
<td>200.13</td>
<td>14.44</td>
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<td>PCC-Vivace</td>
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<td>80.75</td>
<td>65.57</td>
<td>0.00</td>
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<td>WebRTC media</td>
<td>5</td>
<td>0.05</td>
<td>55.29</td>
<td>0.00</td>
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</table>
Run 1: Statistics of TCP BBR

Start at: 2019-03-18 19:33:40
End at: 2019-03-18 19:34:10
Local clock offset: -9.45 ms
Remote clock offset: -17.883 ms

# Below is generated by plot.py at 2019-03-19 00:36:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 127.554 ms
Loss rate: 12.65%
-- Flow 1:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 127.554 ms
Loss rate: 12.65%
Run 1: Report of TCP BBR — Data Link

![Graph 1: Throughput rate (Mbps)]

- **Flow 1 ingress (mean 46.47 Mbps)**
- **Flow 1 egress (mean 40.58 Mbps)**

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

- **Flow 1 (95th percentile 127.55 ms)**
Run 2: Statistics of TCP BBR

Start at: 2019-03-18 19:58:33
End at: 2019-03-18 19:59:03
Local clock offset: -7.985 ms
Remote clock offset: -17.527 ms

# Below is generated by plot.py at 2019-03-19 00:36:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.16 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 11.60%
-- Flow 1:
Average throughput: 58.16 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 11.60%
Run 3: Statistics of TCP BBR

Start at: 2019-03-18 21:52:36
End at: 2019-03-18 21:53:06
Local clock offset: -4.442 ms
Remote clock offset: -18.411 ms

# Below is generated by plot.py at 2019-03-19 00:36:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 123.275 ms
Loss rate: 12.93%
-- Flow 1:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 123.275 ms
Loss rate: 12.93%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 49.79 Mbit/s)**
- **Flow 1 egress (mean 43.34 Mbit/s)**

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

- **Flow 1 (95th percentile 123.28 ms)**
Run 4: Statistics of TCP BBR

Start at: 2019-03-18 23:54:44
Local clock offset: -2.78 ms
Remote clock offset: -20.071 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 61.83 Mbit/s
  95th percentile per-packet one-way delay: 113.875 ms
  Loss rate: 8.15%
-- Flow 1:
  Average throughput: 61.83 Mbit/s
  95th percentile per-packet one-way delay: 113.875 ms
  Loss rate: 8.15%
Run 4: Report of TCP BBR — Data Link

![Graph showing throughput and delay over time]

- Flow 1 ingress (mean 67.33 Mbit/s)
- Flow 1 egress (mean 61.83 Mbit/s)
Run 5: Statistics of TCP BBR

Start at: 2019-03-19 00:19:44
End at: 2019-03-19 00:20:14
Local clock offset: -2.845 ms
Remote clock offset: -19.585 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 140.146 ms
Loss rate: 8.03%
-- Flow 1:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 140.146 ms
Loss rate: 8.03%
Run 5: Report of TCP BBR — Data Link

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

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

Legend:
- Flow 1 ingress (mean 50.09 Mbit/s)
- Flow 1 egress (mean 46.06 Mbit/s)
- Flow 1 (95th percentile 140.15 ms)
Run 1: Statistics of Copa

Start at: 2019-03-18 19:34:51
End at: 2019-03-18 19:35:21
Local clock offset: -9.318 ms
Remote clock offset: -17.861 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.105 ms
Loss rate: 61.48%
-- Flow 1:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.105 ms
Loss rate: 61.48%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-03-18 19:59:44
End at: 2019-03-18 20:00:14
Local clock offset: -8.123 ms
Remote clock offset: -17.383 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 48.753 ms
Loss rate: 60.73%
-- Flow 1:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 48.753 ms
Loss rate: 60.73%
Run 2: Report of Copa — Data Link

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

- **Flow 1 ingress** (mean 31.73 Mbps/s)
- **Flow 1 egress** (mean 12.47 Mbps/s)

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

- Flow 1 (95th percentile 48.75 ms)
Run 3: Statistics of Copa

Start at: 2019-03-18 22:02:52
End at: 2019-03-18 22:03:22
Local clock offset: -5.732 ms
Remote clock offset: -18.579 ms
Run 3: Report of Copa — Data Link

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

- **Flow 1 ingress (mean 0.50 Mbit/s)**
- **Flow 1 egress (mean 0.00 Mbit/s)**

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

- **Flow 1 (95th percentile 46.84 ms)**
Run 4: Statistics of Copa

End at: 2019-03-18 23:56:26
Local clock offset: -2.982 ms
Remote clock offset: -20.339 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.802 ms
Loss rate: 61.26%
-- Flow 1:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.802 ms
Loss rate: 61.26%
Run 4: Report of Copa — Data Link

![Throughput Graph]

- **Flow 1 ingress** (mean 32.16 Mbit/s)
- **Flow 1 egress** (mean 12.46 Mbit/s)

![Delay Graph]

- **Flow 1** (95th percentile 49.80 ms)
Run 5: Statistics of Copa

Start at: 2019-03-19 00:20:55
End at: 2019-03-19 00:21:25
Local clock offset: -2.678 ms
Remote clock offset: -19.541 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 49.019 ms
Loss rate: 59.40%
-- Flow 1:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 49.019 ms
Loss rate: 59.40%
Run 5: Report of Copa — Data Link

[Graph of throughput and delay over time]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 30.73 Mbps)  Flow 1 egress (mean 12.48 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 49.02 ms)
Run 1: Statistics of TCP Cubic

Start at: 2019-03-18 19:32:29
End at: 2019-03-18 19:32:59
Local clock offset: -9.381 ms
Remote clock offset: -17.758 ms

# Below is generated by plot.py at 2019-03-19 00:36:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 134.019 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 134.019 ms
Loss rate: 0.85%
Run 1: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 48.55 Mbps)
- Flow 1 egress (mean 48.13 Mbps)

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

- Flow 1 (95th percentile 134.02 ms)
Run 2: Statistics of TCP Cubic

Start at: 2019-03-18 19:57:21
End at: 2019-03-18 19:57:51
Local clock offset: -8.063 ms
Remote clock offset: -17.155 ms

# Below is generated by plot.py at 2019-03-19 00:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 142.956 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 142.956 ms
Loss rate: 1.16%
Run 2: Report of TCP Cubic — Data Link

![Graph of Throughput vs Time]

- Flow 1 ingress (mean 52.50 Mbit/s)
- Flow 1 egress (mean 51.89 Mbit/s)

![Graph of Latency vs Time]

- Flow 1 (95th percentile 142.96 ms)
Run 3: Statistics of TCP Cubic

Start at: 2019-03-18 21:38:35
End at: 2019-03-18 21:39:05
Local clock offset: -2.489 ms
Remote clock offset: -18.615 ms

# Below is generated by plot.py at 2019-03-19 00:36:57
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 60.73 Mbit/s
  95th percentile per-packet one-way delay: 92.168 ms
  Loss rate: 1.49%
-- Flow 1:
  Average throughput: 60.73 Mbit/s
  95th percentile per-packet one-way delay: 92.168 ms
  Loss rate: 1.49%
Run 3: Report of TCP Cubic — Data Link

![Throughput Graph](image1)

Flow 1 ingress (mean 61.65 Mbit/s)  Flow 1 egress (mean 60.73 Mbit/s)

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

Flow 1 (95th percentile 92.17 ms)
Run 4: Statistics of TCP Cubic

Start at: 2019-03-18 23:53:33
End at: 2019-03-18 23:54:03
Local clock offset: -2.693 ms
Remote clock offset: -20.124 ms

# Below is generated by plot.py at 2019-03-19 00:36:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 117.888 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 117.888 ms
Loss rate: 0.69%
Run 4: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 58.52 Mbit/s)**
- **Flow 1 egress (mean 58.10 Mbit/s)**

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

- **Flow 1 (95th percentile 117.89 ms)**
Run 5: Statistics of TCP Cubic

Start at: 2019-03-19 00:18:32
End at: 2019-03-19 00:19:02
Local clock offset: -3.11 ms
Remote clock offset: -19.837 ms

# Below is generated by plot.py at 2019-03-19 00:37:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.12 Mbit/s
95th percentile per-packet one-way delay: 131.821 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 62.12 Mbit/s
95th percentile per-packet one-way delay: 131.821 ms
Loss rate: 1.21%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2019-03-18 19:28:52
End at: 2019-03-18 19:29:22
Local clock offset: -10.165 ms
Remote clock offset: -17.911 ms

# Below is generated by plot.py at 2019-03-19 00:37:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 64.862 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 64.862 ms
Loss rate: 0.59%
Run 1: Report of FillP — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 2: Statistics of FillP

Start at: 2019-03-18 19:53:44
End at: 2019-03-18 19:54:14
Local clock offset: -8.522 ms
Remote clock offset: -17.694 ms

# Below is generated by plot.py at 2019-03-19 00:37:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 58.305 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 58.305 ms
Loss rate: 0.61%
Run 2: Report of FillP — Data Link

![Graph of Throughput and Packet Delay]

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 94.55 Mbps)
  - Flow 1 egress (mean 93.97 Mbps)

- **Packet Delay (ms)**
  - Flow 1 (95th percentile 50.30 ms)
Run 3: Statistics of FillP

Start at: 2019-03-18 20:40:48
End at: 2019-03-18 20:41:18
Local clock offset: -2.797 ms
Remote clock offset: -17.103 ms

# Below is generated by plot.py at 2019-03-19 00:37:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.83 Mbit/s
95th percentile per-packet one-way delay: 69.004 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 93.83 Mbit/s
95th percentile per-packet one-way delay: 69.004 ms
Loss rate: 0.68%
Run 3: Report of FillP — Data Link

Graph 1: Throughput (Mbps)

Graph 2: Per packet one way delay (ms)

Legend:
- Flow 1 ingress (mean 94.47 Mbit/s)
- Flow 1 egress (mean 93.83 Mbit/s)
- Flow 1 (95th percentile 69.00 ms)
Run 4: Statistics of FillP

Start at: 2019-03-18 23:49:56
End at: 2019-03-18 23:50:26
Local clock offset: −2.265 ms
Remote clock offset: −19.394 ms

# Below is generated by plot.py at 2019-03-19 00:38:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 58.623 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 58.623 ms
Loss rate: 0.61%
Run 4: Report of FillP — Data Link
Run 5: Statistics of FILLP

Start at: 2019-03-19 00:14:55
End at: 2019-03-19 00:15:25
Local clock offset: -3.447 ms
Remote clock offset: -19.919 ms

# Below is generated by plot.py at 2019-03-19 00:38:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 59.090 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 59.090 ms
Loss rate: 0.61%
Run 5: Report of FillP — Data Link

![Graph showing throughput in Mbps over time with two lines representing different flows.]
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-18 19:30:04
End at: 2019-03-18 19:30:34
Local clock offset: -9.767 ms
Remote clock offset: -17.937 ms

# Below is generated by plot.py at 2019-03-19 00:38:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.61%
Run 1: Report of FillP-Sheep — Data Link

![Graph showing throughput and packet delay over time]

- **Flow 1 ingress (mean 92.81 Mbit/s)**
- **Flow 1 egress (mean 92.25 Mbit/s)**

![Graph showing packet delay over time]
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-18 19:54:56
End at: 2019-03-18 19:55:26
Local clock offset: -8.461 ms
Remote clock offset: -17.895 ms

# Below is generated by plot.py at 2019-03-19 00:38:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 59.036 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 59.036 ms
Loss rate: 0.61%
Run 2: Report of FillP-Sheep — Data Link

![Graph 1](image1)

- **Flow 1 ingress** (mean 92.84 Mbit/s)
- **Flow 1 egress** (mean 92.27 Mbit/s)

![Graph 2](image2)

- **Flow 1** (95th percentile 59.04 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-18 20:58:53
End at: 2019-03-18 20:59:23
Local clock offset: -4.625 ms
Remote clock offset: -17.74 ms

# Below is generated by plot.py at 2019-03-19 00:38:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.61%
Run 3: Report of FillP-Sheep — Data Link

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

- **Flow 1 ingress (mean 92.95 Mbit/s)**
- **Flow 1 egress (mean 92.38 Mbit/s)**

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

- **Flow 1 (95th percentile 58.82 ms)**
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-18 23:51:08
End at: 2019-03-18 23:51:38
Local clock offset: -2.728 ms
Remote clock offset: -19.988 ms

# Below is generated by plot.py at 2019-03-19 00:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.68%
Run 4: Report of FillP-Sheep — Data Link

![Graph showing throughput and per-packet one-way delay over time for two flows: Flow 1 ingress (mean 92.73 Mbit/s) and Flow 1 egress (mean 92.10 Mbit/s).]
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-19 00:16:07
End at: 2019-03-19 00:16:37
Local clock offset: -3.406 ms
Remote clock offset: -19.577 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 72.993 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 72.993 ms
Loss rate: 0.70%
Run 5: Report of FillP-Sheep — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 92.57 Mbit/s)  Flow 1 egress (mean 91.92 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 72.99 ms)
Run 1: Statistics of Indigo

Start at: 2019-03-18 19:27:39
End at: 2019-03-18 19:28:09
Local clock offset: -10.595 ms
Remote clock offset: -17.709 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.952 ms
Loss rate: 8.40%
-- Flow 1:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.952 ms
Loss rate: 8.40%
Run 1: Report of Indigo — Data Link

![Graph](image)

Flow 1 ingress (mean 79.01 Mbps)  
Flow 1 egress (mean 72.37 Mbps)

![Graph](image)

Flow 1 (95th percentile 63.95 ms)
Run 2: Statistics of Indigo

Start at: 2019-03-18 19:52:31
End at: 2019-03-18 19:53:01
Local clock offset: -8.738 ms
Remote clock offset: -17.728 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.997 ms
Loss rate: 8.04%
-- Flow 1:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.997 ms
Loss rate: 8.04%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2019-03-18 20:17:25
End at: 2019-03-18 20:17:55
Local clock offset: -10.121 ms
Remote clock offset: -17.879 ms

# Below is generated by plot.py at 2019-03-19 00:39:15

# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 56.402 ms
Loss rate: 7.56%
-- Flow 1:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 56.402 ms
Loss rate: 7.56%
Run 3: Report of Indigo — Data Link

![Graph of throughput and packet delay over time for Flow 1.](image-url)
Run 4: Statistics of Indigo

Local clock offset: -2.277 ms
Remote clock offset: -18.962 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.34 Mbit/s
95th percentile per-packet one-way delay: 63.462 ms
Loss rate: 8.61%
-- Flow 1:
Average throughput: 72.34 Mbit/s
95th percentile per-packet one-way delay: 63.462 ms
Loss rate: 8.61%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2019-03-19 00:13:42
End at: 2019-03-19 00:14:12
Local clock offset: -3.405 ms
Remote clock offset: -19.641 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 72.32 Mbit/s
  95th percentile per-packet one-way delay: 62.257 ms
  Loss rate: 5.24%
-- Flow 1:
  Average throughput: 72.32 Mbit/s
  95th percentile per-packet one-way delay: 62.257 ms
  Loss rate: 5.24%
Run 5: Report of Indigo — Data Link

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

- **Flow 1 ingress** (mean 76.32 Mbit/s)
- **Flow 1 egress** (mean 72.32 Mbit/s)

![Graph showing packet delay over time for Flow 1 (95th percentile 62.26 ms)](image)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-18 19:46:30
End at: 2019-03-18 19:47:00
Local clock offset: -11.536 ms
Remote clock offset: -17.646 ms

# Below is generated by plot.py at 2019-03-19 00:39:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 55.668 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 55.668 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesC3 — Data Link

![Graph of Throughput (Mbps) vs Time (s)](image1)

- **Flow 1 ingress** (mean 95.83 Mbit/s)
- **Flow 1 egress** (mean 95.80 Mbit/s)

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

- **Flow 1** (95th percentile 55.67 ms)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-18 20:11:24
End at: 2019-03-18 20:11:54
Local clock offset: -10.044 ms
Remote clock offset: -17.455 ms

# Below is generated by plot.py at 2019-03-19 00:39:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 57.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 57.132 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC3 — Data Link

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

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

Flow 1 ingress (mean 95.07 Mbit/s)  Flow 1 egress (mean 95.85 Mbit/s)

Flow 1 (95th percentile 57.13 ms)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-18 23:13:02
Local clock offset: -1.79 ms
Remote clock offset: -8.061 ms

# Below is generated by plot.py at 2019-03-19 00:39:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.62 Mbit/s
95th percentile per-packet one-way delay: 67.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.62 Mbit/s
95th percentile per-packet one-way delay: 67.330 ms
Loss rate: 0.00%
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-19 00:07:41
End at: 2019-03-19 00:08:11
Local clock offset: -3.175 ms
Remote clock offset: -19.371 ms

# Below is generated by plot.py at 2019-03-19 00:40:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 59.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 59.429 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 95.62 Mbit/s)  Flow 1 egress (mean 95.60 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 59.43 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-19 00:32:41
End at: 2019-03-19 00:33:11
Local clock offset: -2.077 ms
Remote clock offset: -20.052 ms

# Below is generated by plot.py at 2019-03-19 00:40:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 166.010 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 166.010 ms
Loss rate: 0.43%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-18 19:36:00
End at: 2019-03-18 19:36:30
Local clock offset: -9.417 ms
Remote clock offset: -18.138 ms

# Below is generated by plot.py at 2019-03-19 00:40:22
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 95.07 Mbit/s
  95th percentile per-packet one-way delay: 51.942 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 95.07 Mbit/s
  95th percentile per-packet one-way delay: 51.942 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-MusesC5 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 95.08 Mbit/s)  Flow 1 egress (mean 95.07 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 51.94 ms)
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-18 20:00:54
End at: 2019-03-18 20:01:24
Local clock offset: -8.429 ms
Remote clock offset: -17.382 ms

# Below is generated by plot.py at 2019-03-19 00:40:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 55.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 55.135 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-18 22:04:05
End at: 2019-03-18 22:04:35
Local clock offset: -5.861 ms
Remote clock offset: -17.56 ms

# Below is generated by plot.py at 2019-03-19 00:40:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 55.375 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 55.375 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesC5 — Data Link

[Graphs showing throughput and packet delay over time for two flow rates]
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-18 23:57:10
End at: 2019-03-18 23:57:41
Local clock offset: -2.781 ms
Remote clock offset: -20.686 ms

# Below is generated by plot.py at 2019-03-19 00:40:46
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 95.02 Mbit/s
  95th percentile per-packet one-way delay: 67.509 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 95.02 Mbit/s
  95th percentile per-packet one-way delay: 67.509 ms
  Loss rate: 0.00%
Run 4: Report of Indigo-MusesC5 — Data Link

![Data Link Diagram]

Throughput (Mbps) vs Time (s)

- Flow 1 ingress (mean 95.06 Mbps)
- Flow 1 egress (mean 95.02 Mbps)

Packet error rate vs Time (ms)

- Flow 1 (95th percentile 67.51 ms)
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-19 00:22:05
End at: 2019-03-19 00:22:35
Local clock offset: -2.676 ms
Remote clock offset: -19.47 ms

# Below is generated by plot.py at 2019-03-19 00:41:05
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 94.93 Mbit/s
  95th percentile per-packet one-way delay: 67.714 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 94.93 Mbit/s
  95th percentile per-packet one-way delay: 67.714 ms
  Loss rate: 0.00%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-18 19:24:05
End at: 2019-03-18 19:24:35
Local clock offset: -13.198 ms
Remote clock offset: -17.836 ms

# Below is generated by plot.py at 2019-03-19 00:41:05
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 93.47 Mbit/s
  95th percentile per-packet one-way delay: 55.028 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 93.47 Mbit/s
  95th percentile per-packet one-way delay: 55.028 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-MusesD — Data Link
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-18 19:48:56
End at: 2019-03-18 19:49:26
Local clock offset: -10.147 ms
Remote clock offset: -17.757 ms

# Below is generated by plot.py at 2019-03-19 00:41:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesD — Data Link

![Graph showing throughput over time with two lines for ingress and egress data rates.]

- **Flow 1 ingress (mean 94.20 Mbit/s)**
- **Flow 1 egress (mean 94.19 Mbit/s)**

![Graph showing packet one-way delay over time with one line showing 95th percentile of 60.17 ms.]

- **Flow 1 (95th percentile 60.17 ms)**
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-18 20:13:50
End at: 2019-03-18 20:14:20
Local clock offset: -10.602 ms
Remote clock offset: -17.832 ms

# Below is generated by plot.py at 2019-03-19 00:41:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesD — Data Link

![Graph 1: Throughput vs. Time](image1)
- Flow 1 ingress (mean 94.38 Mbit/s)
- Flow 1 egress (mean 94.36 Mbit/s)

![Graph 2: Per-Socket PPS vs. Time](image2)
- Flow 1 (99th percentile 62.27 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-18 23:45:07  
End at: 2019-03-18 23:45:37  
Local clock offset: -2.082 ms  
Remote clock offset: -17.953 ms

# Below is generated by plot.py at 2019-03-19 00:41:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.85 Mbit/s  
95th percentile per-packet one-way delay: 54.222 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 94.85 Mbit/s  
95th percentile per-packet one-way delay: 54.222 ms  
Loss rate: 0.00%
Run 4: Report of Indigo-MusesD — Data Link

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

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

Start at: 2019-03-19 00:10:07
End at: 2019-03-19 00:10:37
Local clock offset: -3.46 ms
Remote clock offset: -20.067 ms

# Below is generated by plot.py at 2019-03-19 00:41:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesD — Data Link
Run 1: Statistics of Indigo-MuseST

Start at: 2019-03-18 19:47:43  
Local clock offset: -10.845 ms  
Remote clock offset: -17.537 ms

# Below is generated by plot.py at 2019-03-19 00:41:32  
# Datalink statistics

-- Total of 1 flow:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 64.126 ms
Loss rate: 1.45%

-- Flow 1:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 64.126 ms
Loss rate: 1.45%
Run 1: Report of Indigo-MusesT — Data Link

![Throughput Graph](image1.png)

![Delay Graph](image2.png)
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-18 20:12:37
End at: 2019-03-18 20:13:07
Local clock offset: -10.274 ms
Remote clock offset: -17.725 ms

# Below is generated by plot.py at 2019-03-19 00:42:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 74.439 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 74.439 ms
Loss rate: 0.16%
Run 2: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingress (mean 95.87 Mbit/s)**
- **Flow 1 egress (mean 95.67 Mbit/s)**

![Graph showing packet delay over time.]

- **Flow 1 (95th percentile 74.44 ms)**
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-18 23:34:51
End at: 2019-03-18 23:35:21
Local clock offset: -1.847 ms
Remote clock offset: -12.173 ms

# Below is generated by plot.py at 2019-03-19 00:42:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.53 Mbit/s
95th percentile per-packet one-way delay: 63.127 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 95.53 Mbit/s
95th percentile per-packet one-way delay: 63.127 ms
Loss rate: 0.84%
Run 3: Report of Indigo-MusesT — Data Link
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-19 00:08:54
End at: 2019-03-19 00:09:24
Local clock offset: -3.315 ms
Remote clock offset: -20.228 ms

# Below is generated by plot.py at 2019-03-19 00:42:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.35 Mbit/s
95th percentile per-packet one-way delay: 62.509 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 95.35 Mbit/s
95th percentile per-packet one-way delay: 62.509 ms
Loss rate: 1.33%
Run 4: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 96.69 Mbit/s)
- Flow 1 egress (mean 95.35 Mbit/s)

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

- Flow 1 (95th percentile 62.51 ms)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-19 00:33:54
End at: 2019-03-19 00:34:24
Local clock offset: -2.242 ms
Remote clock offset: -19.826 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 95.78 Mbit/s
  95th percentile per-packet one-way delay: 63.754 ms
  Loss rate: 0.17%
-- Flow 1:
  Average throughput: 95.78 Mbit/s
  95th percentile per-packet one-way delay: 63.754 ms
  Loss rate: 0.17%
Run 5: Report of Indigo-MusesT — Data Link

![Throughput Timelapse](image)

- Flow 1 ingress (mean 96.00 Mbit/s)
- Flow 1 egress (mean 95.78 Mbit/s)

![Packet Delay Timelapse](image)

- Flow 1 (95th percentile 63.75 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-03-18 19:40:41
End at: 2019-03-18 19:41:11
Local clock offset: -10.129 ms
Remote clock offset: -17.674 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 48.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 48.551 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

![Graph of throughput over time](image1)

![Graph of per-packet one way delay over time](image2)
Run 2: Statistics of LEDBAT

Start at: 2019-03-18 20:05:35
End at: 2019-03-18 20:06:05
Local clock offset: -8.854 ms
Remote clock offset: -17.73 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.88 Mbit/s
95th percentile per-packet one-way delay: 58.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.88 Mbit/s
95th percentile per-packet one-way delay: 58.356 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 24.88 Mbit/s)  Flow 1 egress (mean 24.88 Mbit/s)

Packet round-trip delay (ms)

Flow 1 (95th percentile 58.36 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-03-18 22:41:10
End at: 2019-03-18 22:41:40
Local clock offset: -2.157 ms
Remote clock offset: -18.849 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 58.941 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 58.941 ms
Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link

![Graph showing throughput over time](image1)

- **Flow 1 ingress (mean 25.16 Mbit/s)**
- **Flow 1 egress (mean 25.16 Mbit/s)**

![Graph showing per-packet round-trip delay](image2)

- **Flow 1 (95th percentile 58.94 ms)**

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Run 4: Statistics of LEDBAT

Start at: 2019-03-19 00:01:52
End at: 2019-03-19 00:02:22
Local clock offset: -3.246 ms
Remote clock offset: -21.584 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 58.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 58.624 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

![Graph of Throughput vs Time](image1)

![Graph of Per-packet one-way delay vs Time](image2)
Run 5: Statistics of LEDBAT

Start at: 2019-03-19 00:26:50
End at: 2019-03-19 00:27:20
Local clock offset: -2.445 ms
Remote clock offset: -19.799 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 28.77 Mbit/s
  95th percentile per-packet one-way delay: 50.522 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 28.77 Mbit/s
  95th percentile per-packet one-way delay: 50.522 ms
  Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-18 19:43:01
End at: 2019-03-18 19:43:31
Local clock offset: -10.67 ms
Remote clock offset: -17.776 ms
Run 1: Report of PCC-Allegro — Data Link

![Graph 1: Throughput over time for Flow 1 (ingress 73.44 Mbit/s, egress 47.85 Mbit/s)]

![Graph 2: Per packet one way delay for Flow 1 (95th percentile 89.12 ms)]
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-18 20:07:55
End at: 2019-03-18 20:08:25
Local clock offset: -9.325 ms
Remote clock offset: -17.403 ms
Run 2: Report of PCC-Allegro — Data Link

[Graphs showing throughput and packet delay over time]
Run 3: Statistics of PCC-Allegro

End at: 2019-03-18 22:51:55
Local clock offset: -1.798 ms
Remote clock offset: -18.954 ms
Run 3: Report of PCC-Allegro — Data Link

![图表1](image1)

- Flow 1 ingress (mean 81.55 Mbit/s)
- Flow 1 egress (mean 61.39 Mbit/s)

![图表2](image2)

- Flow 1 (95th percentile 97.25 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-19 00:04:11
End at: 2019-03-19 00:04:41
Local clock offset: -3.094 ms
Remote clock offset: -21.258 ms
Run 4: Report of PCC-Allegro — Data Link

[Graphs showing throughput and delay over time, with labels indicating mean rates and percentiles.]
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-19 00:29:10
End at: 2019-03-19 00:29:40
Local clock offset: -2.421 ms
Remote clock offset: -19.887 ms
Run 5: Report of PCC-Allegro — Data Link

![Graph showing throughput and delay over time for Flow 1.](image-url)
Run 1: Statistics of PCC-Expr

Start at: 2019-03-18 19:39:33
End at: 2019-03-18 19:40:03
Local clock offset: -10.05 ms
Remote clock offset: -17.766 ms
Run 1: Report of PCC-Expr — Data Link

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

![Graph showing per-packet one-way delay vs time for Flow 1.

Flow 1 (95th percentile 56.34 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-03-18 20:04:27
End at: 2019-03-18 20:04:57
Local clock offset: -8.638 ms
Remote clock offset: -16.321 ms
Run 2: Report of PCC-Expr — Data Link

![Graph of throughput vs. time]

- Flow 1 ingress (mean 0.06 Mbit/s)
- Flow 1 egress (mean 0.02 Mbit/s)

![Graph of per packet one-way delay vs. time]

- Flow 1 (95th percentile 48.05 ms)
Run 3: Statistics of PCC-Expr

Start at: 2019-03-18 22:40:00
End at: 2019-03-18 22:40:30
Local clock offset: -1.993 ms
Remote clock offset: -18.579 ms
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2019-03-19 00:00:44
End at: 2019-03-19 00:01:14
Local clock offset: -3.149 ms
Remote clock offset: -21.194 ms
Run 5: Statistics of PCC-Expr

Start at: 2019-03-19 00:25:42
End at: 2019-03-19 00:26:12
Local clock offset: -2.42 ms
Remote clock offset: -19.788 ms
Run 5: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 0.06 Mbit/s)
- Flow 1 egress (mean 0.02 Mbit/s)

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

- Flow 1 (95th percentile 47.30 ms)
Run 1: Statistics of QUIC Cubic

End at: 2019-03-18 19:37:43
Local clock offset: -9.628 ms
Remote clock offset: -17.462 ms

# Below is generated by plot.py at 2019-03-19 00:43:16
# Datalink statistics
-- Total of 1 flow:
   Average throughput: 65.78 Mbit/s
   95th percentile per-packet one-way delay: 143.298 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 65.78 Mbit/s
   95th percentile per-packet one-way delay: 143.298 ms
   Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-18 20:02:07
End at: 2019-03-18 20:02:37
Local clock offset: -8.338 ms
Remote clock offset: -17.441 ms

# Below is generated by plot.py at 2019-03-19 00:43:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.27 Mbit/s
95th percentile per-packet one-way delay: 121.824 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.27 Mbit/s
95th percentile per-packet one-way delay: 121.824 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-18 22:23:40
End at: 2019-03-18 22:24:10
Local clock offset: -4.219 ms
Remote clock offset: -18.218 ms

# Below is generated by plot.py at 2019-03-19 00:43:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.35 Mbit/s
95th percentile per-packet one-way delay: 94.834 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.35 Mbit/s
95th percentile per-packet one-way delay: 94.834 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

![Graph of throughput vs time showing fluctuation in data link performance.](image)

*Flow 1 ingress (mean 63.35 Mbit/s)  Flow 1 egress (mean 63.35 Mbit/s)*

![Graph of packet one-way delay vs time showing spikes in delay.](image)

*Flow 1 (95th percentile 94.83 ms)*

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Run 4: Statistics of QUIC Cubic

Start at: 2019-03-18 23:58:23
End at: 2019-03-18 23:58:53
Local clock offset: -3.126 ms
Remote clock offset: -20.927 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
   Average throughput: 71.25 Mbit/s
   95th percentile per-packet one-way delay: 102.418 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 71.25 Mbit/s
   95th percentile per-packet one-way delay: 102.418 ms
   Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

![Graph 1: Throughput vs Time]

![Graph 2: Delay vs Time]

Flow 1 ingress (mean 71.25 Mbit/s)  Flow 1 egress (mean 71.25 Mbit/s)

Flow 1 (95th percentile 102.42 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-19 00:23:17
End at: 2019-03-19 00:23:47
Local clock offset: -2.676 ms
Remote clock offset: -19.486 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 107.540 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 107.540 ms
Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link

![Graph: Throughput (Mbps)]

- Flow 1 ingress (mean 57.14 Mbit/s)
- Flow 1 egress (mean 57.13 Mbit/s)

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

- Flow 1 (95th percentile 107.54 ms)
Run 1: Statistics of SCReAM

Start at: 2019-03-18 19:38:25
End at: 2019-03-18 19:38:55
Local clock offset: -9.691 ms
Remote clock offset: -17.793 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 0.00%
Run 2: Statistics of SCReAM

Start at: 2019-03-18 20:03:19
End at: 2019-03-18 20:03:49
Local clock offset: -8.538 ms
Remote clock offset: -17.334 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.232 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 47.232 ms
  Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link
Run 3: Statistics of SCReAM

Start at: 2019-03-18 22:38:45
End at: 2019-03-18 22:39:15
Local clock offset: -2.042 ms
Remote clock offset: -18.793 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.445 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.445 ms
Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link

[Graph showing data link performance metrics over time, including throughput and round-trip time distributions.]
Run 4: Statistics of SCReAM

Start at: 2019-03-18 23:59:35
End at: 2019-03-19 00:00:05
Local clock offset: -3.006 ms
Remote clock offset: -21.271 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.886 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.886 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

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

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

![Graph 2: Round-Trip Time vs Time](image2)

- Flow 1 (95th percentile 55.89 ms)
Run 5: Statistics of SCReAM

Start at: 2019-03-19 00:24:34
End at: 2019-03-19 00:25:04
Local clock offset: -2.483 ms
Remote clock offset: -19.933 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.013 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.013 ms
Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

Start at: 2019-03-18 19:41:52
End at: 2019-03-18 19:42:22
Local clock offset: -10.535 ms
Remote clock offset: -17.78 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 51.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 51.453 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 6.61 Mbit/s)**
- **Flow 1 egress (mean 6.61 Mbit/s)**

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

- **Flow 1 (95th percentile 51.45 ms)**
Run 2: Statistics of Sprout

Start at: 2019-03-18 20:06:46
End at: 2019-03-18 20:07:16
Local clock offset: -9.16 ms
Remote clock offset: -17.595 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

End at: 2019-03-18 22:49:45
Local clock offset: -1.749 ms
Remote clock offset: -18.821 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 51.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 51.594 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 6.49 Mbit/s)**
- **Flow 1 egress (mean 6.49 Mbit/s)**

- **Flow 1 (95th percentile 51.59 ms)**
Run 4: Statistics of Sprout

Start at: 2019-03-19 00:03:02
End at: 2019-03-19 00:03:32
Local clock offset: -3.162 ms
Remote clock offset: -21.316 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

**Graph Details:**
- **Throughput:** Measured in Mbit/s.
- **Delay:** Measured in milliseconds (ms).
- **Flow 1 Ingress:** Mean 6.46 Mbit/s.
- **Flow 1 Egress:** Mean 6.46 Mbit/s.

**Key Observations:**
- Fluctuations in throughput and delay are evident over the duration of the test.
- The data suggests dynamic network conditions.

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Run 5: Statistics of Sprout

Start at: 2019-03-19 00:28:01
End at: 2019-03-19 00:28:31
Local clock offset: -2.272 ms
Remote clock offset: -19.912 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link

![Graph showing data link performance with throughput measured in Mbps and time in seconds.]

- Flow 1 ingress (mean 6.52 Mbit/s)
- Flow 1 egress (mean 6.52 Mbit/s)
Run 1: Statistics of TaoVA-100x

Start at: 2019-03-18 19:26:31
End at: 2019-03-18 19:27:01
Local clock offset: -11.311 ms
Remote clock offset: -17.568 ms
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2019-03-18 19:51:23
End at: 2019-03-18 19:51:53
Local clock offset: -9.122 ms
Remote clock offset: -17.327 ms
Run 2: Report of TaoVA-100x — Data Link

![Graph of throughput and delay](image-url)

- **Throughput** (Mbps):
  - Flow 1 ingress (mean 0.21 Mbit/s)
  - Flow 1 egress (mean 0.00 Mbit/s)

- **Delay** (ms):
  - Flow 1 (95th percentile 56.48 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-03-18 20:16:16
End at: 2019-03-18 20:16:47
Local clock offset: -11.213 ms
Remote clock offset: -17.689 ms
Run 3: Report of TaoVA-100x — Data Link

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

![Graph 2: End-to-end delay (ms)](image2)

- Flow 1 ingress (mean 0.21 Mbps)
- Flow 1 egress (mean 0.00 Mbps)

Flow 1 (95th percentile 56.73 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-18 23:47:34
End at: 2019-03-18 23:48:04
Local clock offset: -2.115 ms
Remote clock offset: -18.948 ms
Run 4: Report of TaoVA-100x — Data Link

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**Throughput (Mbps):**
- Flow 1 ingress (mean 0.23 Mbps)
- Flow 1 egress (mean 0.00 Mbps)

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**Per packet one way delay (ms):**
- Flow 1 (95th percentile 47.16 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2019-03-19 00:12:33
End at: 2019-03-19 00:13:04
Local clock offset: -3.522 ms
Remote clock offset: -19.971 ms
Run 5: Report of TaoVA-100x — Data Link

![Graph of throughput and packet delay]

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 0.23 Mbps)
- **Flow 1 egress** (mean 0.00 Mbps)

**Packet one way delay (ms)**

- **Flow 1** (95th percentile 47.41 ms)
Run 1: Statistics of TCP Vegas

Start at: 2019-03-18 19:45:19
End at: 2019-03-18 19:45:49
Local clock offset: -11.41 ms
Remote clock offset: -17.655 ms

# Below is generated by plot.py at 2019-03-19 00:43:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 73.738 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 73.738 ms
Loss rate: 0.82%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput and delay over time for TCP Vegas flow 1.]

- **Throughput**: The throughput decreases sharply around the 5-second mark and then stabilizes at a lower level.
- **Delay**: The delay spikes significantly around the 5-second mark, with a notable drop in later seconds.
Run 2: Statistics of TCP Vegas

Start at: 2019-03-18 20:10:13
End at: 2019-03-18 20:10:43
Local clock offset: -9.655 ms
Remote clock offset: -18.07 ms

# Below is generated by plot.py at 2019-03-19 00:43:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 75.142 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 75.142 ms
Loss rate: 0.87%
Run 2: Report of TCP Vegas — Data Link

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

![Graph 2: Per-packet one-way delay (ms) vs. Time (s)]
Run 3: Statistics of TCP Vegas

Start at: 2019-03-18 22:58:42
End at: 2019-03-18 22:59:12
Local clock offset: -1.832 ms
Remote clock offset: -13.851 ms

# Below is generated by plot.py at 2019-03-19 00:43:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 81.019 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 81.019 ms
Loss rate: 0.96%
Run 3: Report of TCP Vegas — Data Link

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

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 55.48 Mbit/s)  Flow 1 egress (mean 54.95 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 81.02 ms)
Run 4: Statistics of TCP Vegas

Start at: 2019-03-19 00:06:29
End at: 2019-03-19 00:07:00
Local clock offset: -3.449 ms
Remote clock offset: -20.684 ms

# Below is generated by plot.py at 2019-03-19 00:44:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.88 Mbit/s
95th percentile per-packet one-way delay: 48.604 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 65.88 Mbit/s
95th percentile per-packet one-way delay: 48.604 ms
Loss rate: 0.60%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-03-19 00:31:28
End at: 2019-03-19 00:31:59
Local clock offset: -2.258 ms
Remote clock offset: -19.991 ms

# Below is generated by plot.py at 2019-03-19 00:44:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 55.044 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 55.044 ms
Loss rate: 0.10%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-03-18 19:31:16
End at: 2019-03-18 19:31:46
Local clock offset: -9.61 ms
Remote clock offset: -17.857 ms

# Below is generated by plot.py at 2019-03-19 00:44:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.69 Mbit/s
95th percentile per-packet one-way delay: 201.923 ms
Loss rate: 14.89%
-- Flow 1:
Average throughput: 70.69 Mbit/s
95th percentile per-packet one-way delay: 201.923 ms
Loss rate: 14.89%
Run 1: Report of Verus — Data Link

![Graph of Throughput (Mbps)]

![Graph of Per Packet Drop with Delay (ms)]
Run 2: Statistics of Verus

Start at: 2019-03-18 19:56:08
End at: 2019-03-18 19:56:38
Local clock offset: -8.176 ms
Remote clock offset: -17.496 ms

# Below is generated by plot.py at 2019-03-19 00:44:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 193.022 ms
Loss rate: 13.85%
-- Flow 1:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 193.022 ms
Loss rate: 13.85%
Run 2: Report of Verus — Data Link

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

- Flow 1 ingress (mean 85.71 Mbit/s)
- Flow 1 egress (mean 73.76 Mbit/s)

![Graph showing per packet one way delay over time for Flow 1.]

- Flow 1 (95th percentile 193.02 ms)
Run 3: Statistics of Verus

Start at: 2019-03-18 21:15:58
End at: 2019-03-18 21:16:28
Local clock offset: -6.535 ms
Remote clock offset: -17.707 ms

# Below is generated by plot.py at 2019-03-19 00:44:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.85 Mbit/s
95th percentile per-packet one-way delay: 201.902 ms
Loss rate: 14.23%
-- Flow 1:
Average throughput: 70.85 Mbit/s
95th percentile per-packet one-way delay: 201.902 ms
Loss rate: 14.23%
Run 3: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 82.61 Mbit/s)  Flow 1 egress (mean 70.85 Mbit/s)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 201.90 ms)
Run 4: Statistics of Verus

Start at: 2019-03-18 23:52:20
End at: 2019-03-18 23:52:50
Local clock offset: -2.704 ms
Remote clock offset: -19.68 ms

# Below is generated by plot.py at 2019-03-19 00:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.822 ms
Loss rate: 14.68%
-- Flow 1:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.822 ms
Loss rate: 14.68%
Run 4: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 83.69 Mbit/s)  Flow 1 egress (mean 71.31 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 201.82 ms)
Run 5: Statistics of Verus

Start at: 2019-03-19 00:17:19
End at: 2019-03-19 00:17:49
Local clock offset: -3.372 ms
Remote clock offset: -19.457 ms

# Below is generated by plot.py at 2019-03-19 00:44:30
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 72.53 Mbit/s
  95th percentile per-packet one-way delay: 202.000 ms
  Loss rate: 14.57%
-- Flow 1:
  Average throughput: 72.53 Mbit/s
  95th percentile per-packet one-way delay: 202.000 ms
  Loss rate: 14.57%
Run 5: Report of Verus — Data Link

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

- Flow 1 ingress (mean 84.93 Mbit/s)
- Flow 1 egress (mean 72.53 Mbit/s)

![Graph showing packet delay distribution over time for Flow 1.](image)

- Flow 1 (95th percentile 202.60 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-18 19:25:17
End at: 2019-03-18 19:25:47
Local clock offset: -12.077 ms
Remote clock offset: -17.981 ms

# Below is generated by plot.py at 2019-03-19 00:44:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 79.575 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 79.575 ms
Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link

![Graph showing throughput and one-way delay over time for a data link test. The graph includes two plots: one for throughput and another for one-way delay. The throughput plot shows peaks and drops, indicating variations in data transfer rates. The one-way delay plot shows spikes, indicating moments of increased latency. The legend indicates that the data is for Flow 1 with a mean of 78.53 Mbit/s for both ingress and egress.]
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-18 19:50:09
End at: 2019-03-18 19:50:39
Local clock offset: -9.517 ms
Remote clock offset: -17.583 ms

# Below is generated by plot.py at 2019-03-19 00:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.39 Mbit/s
95th percentile per-packet one-way delay: 63.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.39 Mbit/s
95th percentile per-packet one-way delay: 63.276 ms
Loss rate: 0.00%
Run 2: Report of PCC-Vivace — Data Link
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-18 20:15:03
End at: 2019-03-18 20:15:33
Local clock offset: -11.103 ms
Remote clock offset: -17.823 ms

# Below is generated by plot.py at 2019-03-19 00:44:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.28 Mbit/s
95th percentile per-packet one-way delay: 65.343 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.28 Mbit/s
95th percentile per-packet one-way delay: 65.343 ms
Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-18 23:46:21
End at: 2019-03-18 23:46:51
Local clock offset: -2.079 ms
Remote clock offset: -18.456 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 60.806 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 60.806 ms
Loss rate: 0.00%
Run 4: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 80.89 Mbit/s)
- Flow 1 egress (mean 80.89 Mbit/s)

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

- Flow 1 (95th percentile 60.01 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-19 00:11:20
End at: 2019-03-19 00:11:50
Local clock offset: -3.234 ms
Remote clock offset: -19.879 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 58.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 58.860 ms
Loss rate: 0.00%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-03-18 19:44:11
End at: 2019-03-18 19:44:41
Local clock offset: -11.104 ms
Remote clock offset: -17.627 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.388 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.388 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2019-03-18 20:09:05
End at: 2019-03-18 20:09:35
Local clock offset: -9.485 ms
Remote clock offset: -17.441 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.345 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.345 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

[Graphs showing throughput and packet delay over time]
Run 3: Statistics of WebRTC media

Start at: 2019-03-18 22:57:31
End at: 2019-03-18 22:58:01
Local clock offset: -1.851 ms
Remote clock offset: -15.847 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.594 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-03-19 00:05:21
End at: 2019-03-19 00:05:51
Local clock offset: -3.216 ms
Remote clock offset: -21.25 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.027 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.027 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

![Graph 1: Throughput vs Time]

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

![Graph 2: Packet Delay vs Time]

- **Flow 1 (95th percentile 57.03 ms)**
Run 5: Statistics of WebRTC media

Start at: 2019-03-19 00:30:20
End at: 2019-03-19 00:30:50
Local clock offset: -2.177 ms
Remote clock offset: -19.901 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.097 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.097 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Graph showing throughput over time with two flow lines and a scatter plot with per-packet end-to-end delay over time.]

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

- Flow 1 95th percentile 56.10 ms