Pantheon Report

Data path: GCE Sydney Ethernet (local) → GCE Tokyo Ethernet (remote).
Repeated the test of 15 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (fq), and other schemes with the default Linux qdisc (pfifo_fast).

Git summary:
branch: master @ f23294ec38436c9f802847d477a41b7343ec76e6
third_party/calibrated_koho @ 3cb73c0d1c03222cdfe446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240a5f546e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b206d39e4da2e8987e893e3eca2a6c7cd0a9
  third_party/indigo-1-layer-128-unit @ 3ae9e4e4230db7484501f82ce8b377695f2f66d
  third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d5d38dc4dfe0edc8f90c077e64d
  third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a04d8306fa0b983ad84360c53d89
  third_party/koho_cc @ f0f2e693303ae82ea808e6928eac4f1083a681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccf993
  third_party/pcc @ 1afc958fa0d66d18b623c091a55f9c872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc975f3c924f
third_party/scream @ c3370fd7bd17265a979eb34e016add23f5965885
third_party/sourdough @ f1a4bfe749737437f61b1eeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375ee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af26295e2939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 423cbbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197ddd041ace68a42849b25402a834825f42
test from GCE Sydney Ethernet to GCE Tokyo Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (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></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>114.91</td>
<td>123.75</td>
<td>121.21</td>
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<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>128.97</td>
<td>133.60</td>
<td>60.98</td>
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<td>14.46</td>
<td>15.35</td>
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<td>41.05</td>
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<td>0.21</td>
<td>0.22</td>
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<td>2.27</td>
<td>1.44</td>
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<td>Sprout</td>
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<td>7.86</td>
<td>7.76</td>
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<td>TaoVA-100x</td>
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<td>155.49</td>
<td>87.87</td>
<td>150.70</td>
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<td>TCP Vegas</td>
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<td>85.03</td>
<td>76.94</td>
<td>74.07</td>
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<tr>
<td>Verus</td>
<td>10</td>
<td>240.47</td>
<td>168.98</td>
<td>111.09</td>
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<tr>
<td>Copa</td>
<td>10</td>
<td>77.66</td>
<td>72.11</td>
<td>79.04</td>
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<td>Indigo-2-256</td>
<td>4</td>
<td>183.66</td>
<td>181.74</td>
<td>176.23</td>
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<tr>
<td>Indigo-1-32</td>
<td>10</td>
<td>213.44</td>
<td>205.40</td>
<td>178.75</td>
</tr>
<tr>
<td>Indigo-1-128</td>
<td>10</td>
<td>217.26</td>
<td>208.17</td>
<td>178.39</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-01-26 18:38:30
End at: 2018-01-26 18:39:00

# Below is generated by plot.py at 2018-01-26 22:16:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 232.97 Mbit/s
  95th percentile per-packet one-way delay: 63.177 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 116.50 Mbit/s
  95th percentile per-packet one-way delay: 62.372 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 118.29 Mbit/s
  95th percentile per-packet one-way delay: 63.741 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 114.34 Mbit/s
  95th percentile per-packet one-way delay: 63.702 ms
  Loss rate: 0.58%
Run 1: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 116.55 Mbps)**
- **Flow 1 egress (mean 116.50 Mbps)**
- **Flow 2 ingress (mean 118.36 Mbps)**
- **Flow 2 egress (mean 118.29 Mbps)**
- **Flow 3 ingress (mean 115.64 Mbps)**
- **Flow 3 egress (mean 114.34 Mbps)**

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

- **Flow 1 (95th percentile 62.37 ms)**
- **Flow 2 (95th percentile 63.74 ms)**
- **Flow 3 (95th percentile 63.70 ms)**
Run 2: Statistics of TCP BBR

Start at: 2018-01-26 18:52:22
End at: 2018-01-26 18:52:52

# Below is generated by plot.py at 2018-01-26 22:16:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 215.23 Mbit/s
  95th percentile per-packet one-way delay: 64.600 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 109.58 Mbit/s
  95th percentile per-packet one-way delay: 64.356 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 111.13 Mbit/s
  95th percentile per-packet one-way delay: 65.458 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 96.05 Mbit/s
  95th percentile per-packet one-way delay: 63.743 ms
  Loss rate: 0.00%
Run 2: Report of TCP BBR — Data Link

[Graph showing network throughput and per-packet one way delay over time for different flows.]

Flow 1 ingress (mean 109.60 Mbit/s) — Flow 1 egress (mean 109.58 Mbit/s)
Flow 2 ingress (mean 111.11 Mbit/s) — Flow 2 egress (mean 111.13 Mbit/s)
Flow 3 ingress (mean 96.00 Mbit/s) — Flow 3 egress (mean 96.05 Mbit/s)
Run 3: Statistics of TCP BBR

Start at: 2018-01-26 19:06:39
End at: 2018-01-26 19:07:09

# Below is generated by plot.py at 2018-01-26 22:16:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 224.02 Mbit/s
  95th percentile per-packet one-way delay: 64.716 ms
  Loss rate: 0.14%
-- Flow 1:
  Average throughput: 111.32 Mbit/s
  95th percentile per-packet one-way delay: 64.718 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 105.95 Mbit/s
  95th percentile per-packet one-way delay: 64.809 ms
  Loss rate: 0.18%
-- Flow 3:
  Average throughput: 127.72 Mbit/s
  95th percentile per-packet one-way delay: 64.527 ms
  Loss rate: 0.43%
Run 3: Report of TCP BBR — Data Link

![Graph showing throughput and delay over time for different flows.]

Legend:
- Flow 1 ingress (mean 111.35 Mbit/s)
- Flow 1 egress (mean 111.32 Mbit/s)
- Flow 2 ingress (mean 106.12 Mbit/s)
- Flow 2 egress (mean 105.95 Mbit/s)
- Flow 3 ingress (mean 128.27 Mbit/s)
- Flow 3 egress (mean 127.72 Mbit/s)
Run 4: Statistics of TCP BBR


# Below is generated by plot.py at 2018-01-26 22:16:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 225.44 Mbit/s
  95th percentile per-packet one-way delay: 61.716 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 114.01 Mbit/s
  95th percentile per-packet one-way delay: 61.766 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 109.14 Mbit/s
  95th percentile per-packet one-way delay: 61.527 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 117.64 Mbit/s
  95th percentile per-packet one-way delay: 61.964 ms
  Loss rate: 0.00%
Run 4: Report of TCP BBR — Data Link

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### Throughput (Mbps)

- **Flow 1 ingress (mean 114.01 Mbps)**
- **Flow 1 egress (mean 114.01 Mbps)**
- **Flow 2 ingress (mean 109.14 Mbps)**
- **Flow 2 egress (mean 109.14 Mbps)**
- **Flow 3 ingress (mean 117.64 Mbps)**
- **Flow 3 egress (mean 117.64 Mbps)**

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

- **Flow 1 (95th percentile 61.77 ms)**
- **Flow 2 (95th percentile 61.53 ms)**
- **Flow 3 (95th percentile 61.96 ms)**

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Run 5: Statistics of TCP BBR

Start at: 2018-01-26 19:35:06
End at: 2018-01-26 19:35:36

# Below is generated by plot.py at 2018-01-26 22:16:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 241.04 Mbit/s
  95th percentile per-packet one-way delay: 63.469 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 114.26 Mbit/s
  95th percentile per-packet one-way delay: 62.569 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 125.37 Mbit/s
  95th percentile per-packet one-way delay: 63.756 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 131.76 Mbit/s
  95th percentile per-packet one-way delay: 64.735 ms
  Loss rate: 0.00%
Run 5: Report of TCP BBR — Data Link

![Graph showing throughput and round-trip time for different flows.]

Throughput (Mbps)

<table>
<thead>
<tr>
<th>Time (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Flow 1 ingress (mean 114.28 Mbps)
Flow 1 egress (mean 114.26 Mbps)
Flow 2 ingress (mean 125.38 Mbps)
Flow 2 egress (mean 125.37 Mbps)
Flow 3 ingress (mean 131.87 Mbps)
Flow 3 egress (mean 131.76 Mbps)

Per packet round-trip time (ms)

<table>
<thead>
<tr>
<th>Time (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Flow 1 (95th percentile 62.57 ms)
Flow 2 (95th percentile 63.76 ms)
Flow 3 (95th percentile 64.73 ms)
Run 6: Statistics of TCP BBR

Start at: 2018-01-26 19:49:08
End at: 2018-01-26 19:49:38

# Below is generated by plot.py at 2018-01-26 22:16:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 232.39 Mbit/s
  95th percentile per-packet one-way delay: 64.988 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 125.13 Mbit/s
  95th percentile per-packet one-way delay: 64.524 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 108.24 Mbit/s
  95th percentile per-packet one-way delay: 64.470 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 106.61 Mbit/s
  95th percentile per-packet one-way delay: 68.088 ms
  Loss rate: 0.07%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-01-26 20:03:21
End at: 2018-01-26 20:03:51

# Below is generated by plot.py at 2018-01-26 22:17:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 244.87 Mbit/s
  95th percentile per-packet one-way delay: 66.626 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 114.70 Mbit/s
  95th percentile per-packet one-way delay: 66.526 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 115.11 Mbit/s
  95th percentile per-packet one-way delay: 65.020 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 162.48 Mbit/s
  95th percentile per-packet one-way delay: 68.672 ms
  Loss rate: 0.00%
Run 7: Report of TCP BBR — Data Link

![Graphs showing throughput and packet latency over time for different flows.]

Legend:
- Flow 1 ingress (mean 114.71 Mbit/s)
- Flow 1 egress (mean 114.70 Mbit/s)
- Flow 2 ingress (mean 115.14 Mbit/s)
- Flow 2 egress (mean 115.11 Mbit/s)
- Flow 3 ingress (mean 162.10 Mbit/s)
- Flow 3 egress (mean 162.48 Mbit/s)

Legend for packet latency:
- Flow 1 (95th percentile 66.53 ms)
- Flow 2 (95th percentile 65.02 ms)
- Flow 3 (95th percentile 68.67 ms)
Run 8: Statistics of TCP BBR

Start at: 2018-01-26 20:17:54
End at: 2018-01-26 20:18:24

# Below is generated by plot.py at 2018-01-26 22:17:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 242.08 Mbit/s
  95th percentile per-packet one-way delay: 63.847 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 113.71 Mbit/s
  95th percentile per-packet one-way delay: 62.873 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 138.50 Mbit/s
  95th percentile per-packet one-way delay: 65.168 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 109.83 Mbit/s
  95th percentile per-packet one-way delay: 62.770 ms
  Loss rate: 0.01%
Run 8: Report of TCP BBR — Data Link

![Graph showing throughput and latency over time for different flows.](image-url)
Run 9: Statistics of TCP BBR

Start at: 2018-01-26 20:31:40  
End at: 2018-01-26 20:32:10

# Below is generated by plot.py at 2018-01-26 22:20:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 227.42 Mbit/s
  95th percentile per-packet one-way delay: 64.098 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 109.92 Mbit/s
  95th percentile per-packet one-way delay: 63.812 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 109.61 Mbit/s
  95th percentile per-packet one-way delay: 64.756 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 134.52 Mbit/s
  95th percentile per-packet one-way delay: 63.846 ms
  Loss rate: 0.00%
Run 9: Report of TCP BBR — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.]

- Flow 1 ingress (mean 109.91 Mbit/s)
- Flow 1 egress (mean 109.92 Mbit/s)
- Flow 2 ingress (mean 109.61 Mbit/s)
- Flow 2 egress (mean 109.61 Mbit/s)
- Flow 3 ingress (mean 134.48 Mbit/s)
- Flow 3 egress (mean 134.52 Mbit/s)
Run 10: Statistics of TCP BBR

Start at: 2018-01-26 20:45:55
End at: 2018-01-26 20:46:25

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.15 Mbit/s
95th percentile per-packet one-way delay: 67.435 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 119.96 Mbit/s
95th percentile per-packet one-way delay: 65.187 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 196.13 Mbit/s
95th percentile per-packet one-way delay: 68.087 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 111.17 Mbit/s
95th percentile per-packet one-way delay: 72.635 ms
Loss rate: 0.44%
Run 10: Report of TCP BBR — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2018-01-26 18:40:23
End at: 2018-01-26 18:40:53

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 195.38 Mbit/s
95th percentile per-packet one-way delay: 55.225 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 117.26 Mbit/s
95th percentile per-packet one-way delay: 54.486 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 114.82 Mbit/s
95th percentile per-packet one-way delay: 56.117 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.14 Mbit/s
95th percentile per-packet one-way delay: 51.370 ms
Loss rate: 0.12%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2018-01-26 18:54:13
End at: 2018-01-26 18:54:43

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.59 Mbit/s
95th percentile per-packet one-way delay: 54.954 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 131.39 Mbit/s
95th percentile per-packet one-way delay: 53.529 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.36 Mbit/s
95th percentile per-packet one-way delay: 56.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.73 Mbit/s
95th percentile per-packet one-way delay: 56.273 ms
Loss rate: 0.00%
Run 3: Statistics of TCP Cubic

Start at: 2018-01-26 19:08:50
End at: 2018-01-26 19:09:20

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 262.11 Mbit/s
  95th percentile per-packet one-way delay: 60.087 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 135.11 Mbit/s
  95th percentile per-packet one-way delay: 59.597 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 188.08 Mbit/s
  95th percentile per-packet one-way delay: 60.266 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 5.38 Mbit/s
  95th percentile per-packet one-way delay: 61.035 ms
  Loss rate: 0.13%
Run 3: Report of TCP Cubic — Data Link

![Graph showing throughput and round-trip time for 3 flows]
Run 4: Statistics of TCP Cubic

End at: 2018-01-26 19:23:11

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 216.45 Mbit/s
  95th percentile per-packet one-way delay: 56.329 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 141.71 Mbit/s
  95th percentile per-packet one-way delay: 56.399 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 109.81 Mbit/s
  95th percentile per-packet one-way delay: 55.966 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 4.97 Mbit/s
  95th percentile per-packet one-way delay: 51.296 ms
  Loss rate: 0.17%
Run 4: Report of TCP Cubic — Data Link

[Graphs showing throughput and packet delay over time]
Run 5: Statistics of TCP Cubic

Start at: 2018-01-26 19:37:05
End at: 2018-01-26 19:37:35

# Below is generated by plot.py at 2018-01-26 22:21:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.69 Mbit/s
95th percentile per-packet one-way delay: 56.757 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 122.15 Mbit/s
95th percentile per-packet one-way delay: 55.428 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 163.32 Mbit/s
95th percentile per-packet one-way delay: 57.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.45 Mbit/s
95th percentile per-packet one-way delay: 51.143 ms
Loss rate: 0.09%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-01-26 19:50:57
End at: 2018-01-26 19:51:27

# Below is generated by plot.py at 2018-01-26 22:21:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.98 Mbit/s
95th percentile per-packet one-way delay: 59.802 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 136.19 Mbit/s
95th percentile per-packet one-way delay: 60.230 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 123.38 Mbit/s
95th percentile per-packet one-way delay: 58.402 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 129.02 Mbit/s
95th percentile per-packet one-way delay: 57.058 ms
Loss rate: 0.00%
Run 6: Report of TCP Cubic — Data Link
Run 7: Statistics of TCP Cubic

Start at: 2018-01-26 20:05:25
End at: 2018-01-26 20:05:55

# Below is generated by plot.py at 2018-01-26 22:24:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 266.04 Mbit/s
  95th percentile per-packet one-way delay: 58.109 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 140.17 Mbit/s
  95th percentile per-packet one-way delay: 58.740 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 132.82 Mbit/s
  95th percentile per-packet one-way delay: 56.578 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 113.07 Mbit/s
  95th percentile per-packet one-way delay: 55.123 ms
  Loss rate: 0.00%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-01-26 20:19:41
End at: 2018-01-26 20:20:11

# Below is generated by plot.py at 2018-01-26 22:24:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 213.21 Mbit/s
95th percentile per-packet one-way delay: 57.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 139.00 Mbit/s
95th percentile per-packet one-way delay: 54.600 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 109.12 Mbit/s
95th percentile per-packet one-way delay: 59.683 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 51.963 ms
Loss rate: 0.23%
Run 8: Report of TCP Cubic — Data Link

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Throughput (Mbps)

Time (s)

- Flow 1 ingress (mean 139.00 Mbps)
- Flow 1 egress (mean 139.00 Mbps)
- Flow 2 ingress (mean 109.12 Mbps)
- Flow 2 egress (mean 109.12 Mbps)
- Flow 3 ingress (mean 4.70 Mbps)
- Flow 3 egress (mean 4.69 Mbps)

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Per-packet one-way delay (ms)

Time (s)

- Flow 1 (95th percentile 54.60 ms)
- Flow 2 (95th percentile 59.68 ms)
- Flow 3 (95th percentile 51.96 ms)

---

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Run 9: Statistics of TCP Cubic

Start at: 2018-01-26 20:33:38
End at: 2018-01-26 20:34:08

# Below is generated by plot.py at 2018-01-26 22:24:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 232.27 Mbit/s
  95th percentile per-packet one-way delay: 58.209 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 98.47 Mbit/s
  95th percentile per-packet one-way delay: 56.856 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 139.89 Mbit/s
  95th percentile per-packet one-way delay: 58.997 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 122.45 Mbit/s
  95th percentile per-packet one-way delay: 57.060 ms
  Loss rate: 0.00%
Run 9: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 98.46 Mbit/s)
- Flow 1 egress (mean 98.47 Mbit/s)
- Flow 2 ingress (mean 139.88 Mbit/s)
- Flow 2 egress (mean 139.89 Mbit/s)
- Flow 3 ingress (mean 122.40 Mbit/s)
- Flow 3 egress (mean 122.45 Mbit/s)
Run 10: Statistics of TCP Cubic

Start at: 2018-01-26 20:47:58
End at: 2018-01-26 20:48:28

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.41 Mbit/s
95th percentile per-packet one-way delay: 58.982 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 128.21 Mbit/s
95th percentile per-packet one-way delay: 59.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 107.42 Mbit/s
95th percentile per-packet one-way delay: 56.436 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 104.88 Mbit/s
95th percentile per-packet one-way delay: 56.917 ms
Loss rate: 0.00%
Run 10: Report of TCP Cubic — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 128.22 Mbps)
  - Flow 1 Egress (mean 128.21 Mbps)
  - Flow 2 Ingress (mean 107.51 Mbps)
  - Flow 2 Egress (mean 107.42 Mbps)
  - Flow 3 Ingress (mean 104.86 Mbps)
  - Flow 3 Egress (mean 104.88 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 59.44 ms)
  - Flow 2 (95th percentile 56.44 ms)
  - Flow 3 (95th percentile 56.92 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-01-26 18:42:38
End at: 2018-01-26 18:43:08

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 30.42 Mbit/s
  95th percentile per-packet one-way delay: 51.301 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 14.79 Mbit/s
  95th percentile per-packet one-way delay: 51.277 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 18.00 Mbit/s
  95th percentile per-packet one-way delay: 51.319 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 11.06 Mbit/s
  95th percentile per-packet one-way delay: 51.400 ms
  Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 14.79 Mbit/s)**
- **Flow 1 egress (mean 14.79 Mbit/s)**
- **Flow 2 ingress (mean 17.99 Mbit/s)**
- **Flow 2 egress (mean 18.00 Mbit/s)**
- **Flow 3 ingress (mean 11.06 Mbit/s)**
- **Flow 3 egress (mean 11.06 Mbit/s)**

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

- **Flow 1 (95th percentile 51.28 ms)**
- **Flow 2 (95th percentile 51.32 ms)**
- **Flow 3 (95th percentile 51.40 ms)**
Run 2: Statistics of LEDBAT

Start at: 2018-01-26 18:56:34
End at: 2018-01-26 18:57:04

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 29.06 Mbit/s
  95th percentile per-packet one-way delay: 51.346 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 11.43 Mbit/s
  95th percentile per-packet one-way delay: 51.300 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 20.91 Mbit/s
  95th percentile per-packet one-way delay: 51.304 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 11.33 Mbit/s
  95th percentile per-packet one-way delay: 51.978 ms
  Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link
Run 3: Statistics of LEDBAT

Start at: 2018-01-26 19:11:12
End at: 2018-01-26 19:11:42

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 35.34 Mbit/s
  95th percentile per-packet one-way delay: 54.469 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 26.75 Mbit/s
  95th percentile per-packet one-way delay: 54.400 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.91 Mbit/s
  95th percentile per-packet one-way delay: 54.669 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 10.25 Mbit/s
  95th percentile per-packet one-way delay: 54.771 ms
  Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link

![Throughput Graph](image1)

![Per-packet round-trip time Graph](image2)
Run 4: Statistics of LEDBAT

Start at: 2018-01-26 19:24:57
End at: 2018-01-26 19:25:27

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 27.06 Mbit/s
  95th percentile per-packet one-way delay: 54.859 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 11.46 Mbit/s
  95th percentile per-packet one-way delay: 54.676 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 19.33 Mbit/s
  95th percentile per-packet one-way delay: 55.053 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 8.28 Mbit/s
  95th percentile per-packet one-way delay: 54.520 ms
  Loss rate: 0.00%
Run 5: Statistics of LEDBAT

End at: 2018-01-26 19:39:58

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 25.41 Mbit/s
  95th percentile per-packet one-way delay: 54.791 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 14.84 Mbit/s
  95th percentile per-packet one-way delay: 54.790 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 11.69 Mbit/s
  95th percentile per-packet one-way delay: 54.800 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 8.44 Mbit/s
  95th percentile per-packet one-way delay: 54.784 ms
  Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link
Run 6: Statistics of LEDBAT

End at: 2018-01-26 19:53:54

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.57 Mbit/s
95th percentile per-packet one-way delay: 54.492 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 54.443 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 54.606 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 10.50 Mbit/s
95th percentile per-packet one-way delay: 54.479 ms
Loss rate: 0.00%
Run 6: Report of LEDBAT — Data Link
Run 7: Statistics of LEDBAT

Start at: 2018-01-26 20:07:51
End at: 2018-01-26 20:08:21

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 27.31 Mbit/s
  95th percentile per-packet one-way delay: 54.181 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 16.54 Mbit/s
  95th percentile per-packet one-way delay: 54.292 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 14.81 Mbit/s
  95th percentile per-packet one-way delay: 51.250 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.76 Mbit/s
  95th percentile per-packet one-way delay: 50.963 ms
  Loss rate: 0.00%
Run 7: Report of LEDBAT — Data Link

![Graph showing throughput and packet delay over time for different flows.](image-url)
Run 8: Statistics of LEDBAT


# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.56 Mbit/s
95th percentile per-packet one-way delay: 54.514 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 54.276 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 22.16 Mbit/s
95th percentile per-packet one-way delay: 54.586 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.44 Mbit/s
95th percentile per-packet one-way delay: 54.551 ms
Loss rate: 0.00%
Run 8: Report of LEDBAT — Data Link
Run 9: Statistics of LEDBAT

Start at: 2018-01-26 20:36:00
End at: 2018-01-26 20:36:30

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 23.17 Mbit/s
  95th percentile per-packet one-way delay: 54.355 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 10.71 Mbit/s
  95th percentile per-packet one-way delay: 54.226 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 14.60 Mbit/s
  95th percentile per-packet one-way delay: 54.448 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 8.37 Mbit/s
  95th percentile per-packet one-way delay: 53.738 ms
  Loss rate: 0.00%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-01-26 20:50:20
End at: 2018-01-26 20:50:50

# Below is generated by plot.py at 2018-01-26 22:24:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 24.95 Mbit/s
  95th percentile per-packet one-way delay: 54.448 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 13.16 Mbit/s
  95th percentile per-packet one-way delay: 54.510 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 12.12 Mbit/s
  95th percentile per-packet one-way delay: 54.367 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 11.40 Mbit/s
  95th percentile per-packet one-way delay: 53.676 ms
  Loss rate: 0.00%
Run 10: Report of LEDBAT — Data Link

![Graph of throughput and per-packet one-way delay](image)
Run 1: Statistics of PCC

Start at: 2018-01-26 18:34:36
End at: 2018-01-26 18:35:06

# Below is generated by plot.py at 2018-01-26 22:32:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 579.57 Mbit/s
95th percentile per-packet one-way delay: 168.700 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 539.18 Mbit/s
95th percentile per-packet one-way delay: 169.044 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 29.89 Mbit/s
95th percentile per-packet one-way delay: 171.115 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 62.54 Mbit/s
95th percentile per-packet one-way delay: 87.581 ms
Loss rate: 0.00%
Run 1: Report of PCC — Data Link

![Graph showing throughput over time for different flows]

- Flow 1 ingress (mean 541.42 Mbit/s)
- Flow 1 egress (mean 539.18 Mbit/s)
- Flow 2 ingress (mean 29.93 Mbit/s)
- Flow 2 egress (mean 29.69 Mbit/s)
- Flow 3 ingress (mean 62.56 Mbit/s)
- Flow 3 egress (mean 62.54 Mbit/s)

![Graph showing per-packet one-way delay over time for different flows]

- Flow 1 (95th percentile 169.04 ms)
- Flow 2 (95th percentile 171.12 ms)
- Flow 3 (95th percentile 87.58 ms)
Run 2: Statistics of PCC

End at: 2018-01-26 18:49:18

# Below is generated by plot.py at 2018-01-26 22:32:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 608.81 Mbit/s
  95th percentile per-packet one-way delay: 165.425 ms
  Loss rate: 0.89%
-- Flow 1:
  Average throughput: 584.58 Mbit/s
  95th percentile per-packet one-way delay: 165.314 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 5.25 Mbit/s
  95th percentile per-packet one-way delay: 165.592 ms
  Loss rate: 0.64%
-- Flow 3:
  Average throughput: 62.99 Mbit/s
  95th percentile per-packet one-way delay: 166.760 ms
  Loss rate: 1.03%
Run 2: Report of PCC — Data Link

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

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

- Flow 1 ingress (mean 589.83 Mbit/s)
- Flow 1 egress (mean 584.58 Mbit/s)
- Flow 2 ingress (mean 5.28 Mbit/s)
- Flow 2 egress (mean 5.25 Mbit/s)
- Flow 3 ingress (mean 63.63 Mbit/s)
- Flow 3 egress (mean 62.99 Mbit/s)

- Flow 1 (95th percentile 165.31 ms)
- Flow 2 (95th percentile 165.59 ms)
- Flow 3 (95th percentile 166.76 ms)
Run 3: Statistics of PCC

Start at: 2018-01-26 19:02:44
End at: 2018-01-26 19:03:14

# Below is generated by plot.py at 2018-01-26 22:32:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 576.81 Mbit/s
95th percentile per-packet one-way delay: 178.942 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 509.63 Mbit/s
95th percentile per-packet one-way delay: 187.565 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 68.88 Mbit/s
95th percentile per-packet one-way delay: 157.628 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 65.04 Mbit/s
95th percentile per-packet one-way delay: 159.082 ms
Loss rate: 0.36%
Run 3: Report of PCC — Data Link
Run 4: Statistics of PCC

Start at: 2018-01-26 19:17:23
End at: 2018-01-26 19:17:53

# Below is generated by plot.py at 2018-01-26 22:32:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 584.00 Mbit/s
  95th percentile per-packet one-way delay: 172.231 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 579.34 Mbit/s
  95th percentile per-packet one-way delay: 172.222 ms
  Loss rate: 0.57%
-- Flow 2:
  Average throughput: 4.89 Mbit/s
  95th percentile per-packet one-way delay: 172.380 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 4.26 Mbit/s
  95th percentile per-packet one-way delay: 173.468 ms
  Loss rate: 1.36%
Run 4: Report of PCC — Data Link
Run 5: Statistics of PCC

Start at: 2018-01-26 19:31:12
End at: 2018-01-26 19:31:42

# Below is generated by plot.py at 2018-01-26 22:34:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 582.01 Mbit/s
95th percentile per-packet one-way delay: 279.507 ms
Loss rate: 3.60%

-- Flow 1:
Average throughput: 502.79 Mbit/s
95th percentile per-packet one-way delay: 281.468 ms
Loss rate: 3.46%

-- Flow 2:
Average throughput: 65.92 Mbit/s
95th percentile per-packet one-way delay: 169.989 ms
Loss rate: 3.14%

-- Flow 3:
Average throughput: 107.25 Mbit/s
95th percentile per-packet one-way delay: 171.342 ms
Loss rate: 6.14%
Run 5: Report of PCC — Data Link

![Graph showing throughput and delay for different flows over time.]

- **Flow 1** (ingress mean: 521.45 Mbit/s, egress mean: 502.79 Mbit/s)
- **Flow 2** (ingress mean: 68.20 Mbit/s, egress mean: 65.92 Mbit/s)
- **Flow 3** (ingress mean: 114.66 Mbit/s, egress mean: 107.25 Mbit/s)

- **Per-packet one-way delay (ms)**: Flow 1 (95th percentile: 281.47 ms), Flow 2 (95th percentile: 169.99 ms), Flow 3 (95th percentile: 171.34 ms)
Run 6: Statistics of PCC

Start at: 2018-01-26 19:45:35
End at: 2018-01-26 19:46:05

# Below is generated by plot.py at 2018-01-26 22:34:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 578.33 Mbit/s
95th percentile per-packet one-way delay: 141.738 ms
Loss rate: 0.26%

-- Flow 1:
Average throughput: 549.23 Mbit/s
95th percentile per-packet one-way delay: 141.763 ms
Loss rate: 0.27%

-- Flow 2:
Average throughput: 34.97 Mbit/s
95th percentile per-packet one-way delay: 141.599 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 17.78 Mbit/s
95th percentile per-packet one-way delay: 141.032 ms
Loss rate: 0.00%
Run 6: Report of PCC — Data Link

[Graph: Throughput (Mbps) vs Time (s) for Flow 1 ingress (mean 550.81 Mbps), Flow 1 egress (mean 549.23 Mbps), Flow 2 ingress (mean 34.97 Mbps), Flow 2 egress (mean 34.97 Mbps), Flow 3 ingress (mean 17.77 Mbps), Flow 3 egress (mean 17.76 Mbps)]

[Graph: Per-packet one-way delay (ms) vs Time (s) for Flow 1 (95th percentile 141.76 ms), Flow 2 (95th percentile 141.60 ms), Flow 3 (95th percentile 141.03 ms)]
Run 7: Statistics of PCC

Start at: 2018-01-26 19:59:37
End at: 2018-01-26 20:00:08

# Below is generated by plot.py at 2018-01-26 22:34:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.38 Mbit/s
95th percentile per-packet one-way delay: 140.389 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 537.88 Mbit/s
95th percentile per-packet one-way delay: 140.570 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 19.74 Mbit/s
95th percentile per-packet one-way delay: 134.850 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 95.128 ms
Loss rate: 0.00%
Run 7: Report of PCC — Data Link

![Graph showing throughput and delay for different flows.](image)

- **Flow 1 ingress (mean 540.69 Mbit/s)**
- **Flow 1 egress (mean 537.88 Mbit/s)**
- **Flow 2 ingress (mean 19.74 Mbit/s)**
- **Flow 2 egress (mean 19.74 Mbit/s)**
- **Flow 3 ingress (mean 40.62 Mbit/s)**
- **Flow 3 egress (mean 40.65 Mbit/s)**

![Graph showing per-packet round-trip delay distribution for different flows.](image)

- **Flow 1 (95th percentile 140.57 ms)**
- **Flow 2 (95th percentile 134.85 ms)**
- **Flow 3 (95th percentile 95.13 ms)**
Run 8: Statistics of PCC

Start at: 2018-01-26 20:14:03
End at: 2018-01-26 20:14:33

# Below is generated by plot.py at 2018-01-26 22:34:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 557.01 Mbit/s
  95th percentile per-packet one-way delay: 281.253 ms
  Loss rate: 2.72%
-- Flow 1:
  Average throughput: 484.64 Mbit/s
  95th percentile per-packet one-way delay: 292.477 ms
  Loss rate: 2.72%
-- Flow 2:
  Average throughput: 78.20 Mbit/s
  95th percentile per-packet one-way delay: 176.027 ms
  Loss rate: 2.20%
-- Flow 3:
  Average throughput: 61.95 Mbit/s
  95th percentile per-packet one-way delay: 177.222 ms
  Loss rate: 4.02%
Run 8: Report of PCC — Data Link

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

- Flow 1 ingress (mean 498.21 Mbit/s)
- Flow 1 egress (mean 484.64 Mbit/s)
- Flow 2 ingress (mean 79.97 Mbit/s)
- Flow 2 egress (mean 78.20 Mbit/s)
- Flow 3 ingress (mean 64.55 Mbit/s)
- Flow 3 egress (mean 61.95 Mbit/s)

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

- Flow 1 (95th percentile 292.48 ms)
- Flow 2 (95th percentile 176.03 ms)
- Flow 3 (95th percentile 177.22 ms)
Run 9: Statistics of PCC

Start at: 2018-01-26 20:28:09
End at: 2018-01-26 20:28:39

# Below is generated by plot.py at 2018-01-26 22:41:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 572.75 Mbit/s
  95th percentile per-packet one-way delay: 168.987 ms
  Loss rate: 1.10%
-- Flow 1:
  Average throughput: 512.50 Mbit/s
  95th percentile per-packet one-way delay: 168.804 ms
  Loss rate: 1.11%
-- Flow 2:
  Average throughput: 62.09 Mbit/s
  95th percentile per-packet one-way delay: 169.118 ms
  Loss rate: 0.77%
-- Flow 3:
  Average throughput: 57.61 Mbit/s
  95th percentile per-packet one-way delay: 169.947 ms
  Loss rate: 1.55%
Run 9: Report of PCC — Data Link

![Graph showing throughput and packet loss over time for different flows.](image)

- Flow 1 ingress (mean 518.32 Mbit/s)
- Flow 1 egress (mean 512.50 Mbit/s)
- Flow 2 ingress (mean 62.57 Mbit/s)
- Flow 2 egress (mean 62.09 Mbit/s)
- Flow 3 ingress (mean 58.54 Mbit/s)
- Flow 3 egress (mean 57.61 Mbit/s)
Run 10: Statistics of PCC

End at: 2018-01-26 20:42:43

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 576.96 Mbit/s
95th percentile per-packet one-way delay: 88.162 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 543.77 Mbit/s
95th percentile per-packet one-way delay: 88.428 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 40.71 Mbit/s
95th percentile per-packet one-way delay: 86.638 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 18.57 Mbit/s
95th percentile per-packet one-way delay: 82.714 ms
Loss rate: 0.01%
Run 10: Report of PCC — Data Link

![Graph showing throughput and round-trip time over time for different flows.]

- Flow 1 ingress (mean 545.90 Mbit/s)
- Flow 1 egress (mean 543.77 Mbit/s)
- Flow 2 ingress (mean 40.72 Mbit/s)
- Flow 2 egress (mean 40.71 Mbit/s)
- Flow 3 ingress (mean 18.57 Mbit/s)
- Flow 3 egress (mean 18.57 Mbit/s)

![Graph showing packet round-trip time.]

- Flow 1 (95th percentile 88.43 ms)
- Flow 2 (95th percentile 86.64 ms)
- Flow 3 (95th percentile 82.71 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-26 18:33:57
End at: 2018-01-26 18:34:27
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-26 18:48:07
End at: 2018-01-26 18:48:37
Run 2: Report of QUIC Cubic — Data Link

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

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

- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.21 Mbps)
- Flow 2 egress (mean 0.21 Mbps)
- Flow 3 ingress (mean 0.21 Mbps)
- Flow 3 egress (mean 0.21 Mbps)

- Flow 1 (95th percentile 50.59 ms)
- Flow 2 (95th percentile 54.10 ms)
- Flow 3 (95th percentile 54.03 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-26 19:02:05
End at: 2018-01-26 19:02:35
Run 3: Report of QUIC Cubic — Data Link

![Graph of Throughput and Per-packet one-way delay](image)

- Flow 1 ingress (mean 299.93 Mbps)
- Flow 1 egress (mean 289.44 Mbps)
- Flow 2 ingress (mean 0.06 Mbps)
- Flow 2 egress (mean 0.06 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.23 Mbps)

![Graph of Throughput and Per-packet one-way delay](image)

- Flow 1 (95th percentile 51.17 ms)
- Flow 2 (95th percentile 50.93 ms)
- Flow 3 (95th percentile 50.70 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-26 19:16:43
End at: 2018-01-26 19:17:13
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-26 19:30:32
End at: 2018-01-26 19:31:02
Run 5: Report of QUIC Cubic — Data Link

Throughput (Mb/s)

Flow 1 ingress (mean 262.86 Mb/s)
Flow 1 egress (mean 286.22 Mb/s)
Flow 2 ingress (mean 0.21 Mb/s)
Flow 2 egress (mean 0.21 Mb/s)
Flow 3 ingress (mean 0.21 Mb/s)
Flow 3 egress (mean 0.21 Mb/s)

Per packet delivery delay (ms)

Flow 1 (95th percentile 54.48 ms)
Flow 2 (95th percentile 54.31 ms)
Flow 3 (95th percentile 54.59 ms)
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-26 19:44:55
End at: 2018-01-26 19:45:25
Run 6: Report of QUIC Cubic — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 260.20 Mbit/s)  Flow 2 ingress (mean 280.00 Mbit/s)
Flow 2 ingress (mean 0.23 Mbit/s)  Flow 2 egress (mean 0.23 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.23 Mbit/s)

Per Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 51.01 ms)  Flow 2 (95th percentile 51.02 ms)  Flow 3 (95th percentile 51.22 ms)
Run 7: Statistics of QUIC Cubic

Start at: 2018-01-26 19:58:58
End at: 2018-01-26 19:59:28
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

End at: 2018-01-26 20:13:54
Run 8: Report of QUIC Cubic — Data Link

 através de uma análise gráfica dos dados.
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-26 20:27:29
End at: 2018-01-26 20:27:59
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-26 20:41:34
End at: 2018-01-26 20:42:04
Run 10: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.25 Mbit/s)  Flow 1 egress (mean 0.25 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 54.22 ms)  Flow 2 (95th percentile 54.03 ms)  Flow 3 (95th percentile 54.77 ms)
Run 1: Statistics of SCReAM

Start at: 2018-01-26 18:41:13
End at: 2018-01-26 18:41:43

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 53.599 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.624 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.390 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.568 ms
  Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

![Graph showing throughput and packet loss over time]

Flow 1 ingress (mean 0.21 Mbit/s) | Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s) | Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) | Flow 3 egress (mean 0.22 Mbit/s)

![Graph showing packet loss over time]

Flow 1 (95th percentile 53.62 ms) | Flow 2 (95th percentile 50.39 ms) | Flow 3 (95th percentile 50.57 ms)
Run 2: Statistics of SCReAM

Start at: 2018-01-26 18:55:08
End at: 2018-01-26 18:55:38

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 54.101 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.119 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.688 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 53.673 ms
  Loss rate: 0.00%
Run 3: Statistics of SCReAM

Start at: 2018-01-26 19:09:45
End at: 2018-01-26 19:10:15

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.062 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 50.665 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.108 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.753 ms
  Loss rate: 0.00%
Run 4: Statistics of SCReAM

End at: 2018-01-26 19:24:02

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.058 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.704 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 54.090 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.760 ms
  Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

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

![Graph 2: Per-packet sea ray delay (ms)](image2)
Run 5: Statistics of SCReAM

Start at: 2018-01-26 19:37:58
End at: 2018-01-26 19:38:28

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.114 ms
  Loss rate: 0.00%
  -- Flow 1:
    Average throughput: 0.21 Mbit/s
    95th percentile per-packet one-way delay: 54.115 ms
    Loss rate: 0.00%
  -- Flow 2:
    Average throughput: 0.21 Mbit/s
    95th percentile per-packet one-way delay: 54.131 ms
    Loss rate: 0.00%
  -- Flow 3:
    Average throughput: 0.22 Mbit/s
    95th percentile per-packet one-way delay: 53.972 ms
    Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

[Diagram with two graphs showing throughput and per-packet one-way delay over time for different flows, each marked with specific mean values.]
Run 6: Statistics of SCReAM

Start at: 2018-01-26 19:51:51
End at: 2018-01-26 19:52:21

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 50.803 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 50.822 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.776 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.696 ms
  Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-01-26 20:06:19
End at: 2018-01-26 20:06:49

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.111 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.564 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.145 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 50.884 ms
  Loss rate: 0.00%
Run 7: Report of SCReAM — Data Link

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

- **Flow 1 ingress (mean 0.21 Mbit/s)**
- **Flow 1 egress (mean 0.21 Mbit/s)**
- **Flow 2 ingress (mean 0.21 Mbit/s)**
- **Flow 2 egress (mean 0.21 Mbit/s)**
- **Flow 3 ingress (mean 0.22 Mbit/s)**
- **Flow 3 egress (mean 0.22 Mbit/s)**

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

- **Flow 1 (95th percentile 53.56 ms)**
- **Flow 2 (95th percentile 54.15 ms)**
- **Flow 3 (95th percentile 50.88 ms)**
Run 8: Statistics of SCReAM

Start at: 2018-01-26 20:20:33
End at: 2018-01-26 20:21:03

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 54.064 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.576 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 54.090 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.916 ms
Loss rate: 0.00%
Run 9: Statistics of SCReAM

Start at: 2018-01-26 20:34:31
End at: 2018-01-26 20:35:01

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.041 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.048 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 54.013 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 54.067 ms
  Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

![Graph showing throughput and per-packet round-trip latency over time for different flows. The graphs illustrate the variability in data link performance with respect to time and flow characteristics.]
Run 10: Statistics of SCReAM

Start at: 2018-01-26 20:48:51
End at: 2018-01-26 20:49:21

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 54.053 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 54.074 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 53.683 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 53.708 ms
  Loss rate: 0.00%
Run 10: Report of SCReAM — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows, with annotations for each flow's mean throughput and 95th percentile delay.]
Run 1: Statistics of WebRTC media

Start at: 2018-01-26 18:44:26
End at: 2018-01-26 18:44:56

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.25 Mbit/s
  95th percentile per-packet one-way delay: 53.980 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 50.264 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 53.663 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 54.069 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress** (mean 2.25 Mbps)
- **Flow 1 egress** (mean 2.25 Mbps)
- **Flow 2 ingress** (mean 1.42 Mbps)
- **Flow 2 egress** (mean 1.42 Mbps)
- **Flow 3 ingress** (mean 0.60 Mbps)
- **Flow 3 egress** (mean 0.60 Mbps)

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

- **Flow 1** (95th percentile 50.26 ms)
- **Flow 2** (95th percentile 53.66 ms)
- **Flow 3** (95th percentile 54.07 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-01-26 18:58:22
End at: 2018-01-26 18:58:52

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 54.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 53.994 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 50.682 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 54.077 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.27 Mbit/s)  
Flow 1 egress (mean 2.27 Mbit/s)  
Flow 2 ingress (mean 1.43 Mbit/s)  
Flow 2 egress (mean 1.43 Mbit/s)  
Flow 3 ingress (mean 0.60 Mbit/s)  
Flow 3 egress (mean 0.60 Mbit/s)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 53.99 ms)  
Flow 2 (95th percentile 50.68 ms)  
Flow 3 (95th percentile 54.08 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-01-26 19:13:02

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.30 Mbit/s
  95th percentile per-packet one-way delay: 50.682 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.26 Mbit/s
  95th percentile per-packet one-way delay: 50.377 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.44 Mbit/s
  95th percentile per-packet one-way delay: 50.703 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.61 Mbit/s
  95th percentile per-packet one-way delay: 53.686 ms
  Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

![Throughput Graph](image1)

![Delay Graph](image2)
Run 4: Statistics of WebRTC media

Start at: 2018-01-26 19:26:46
End at: 2018-01-26 19:27:16

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.51 Mbit/s
  95th percentile per-packet one-way delay: 54.137 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.38 Mbit/s
  95th percentile per-packet one-way delay: 54.165 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.50 Mbit/s
  95th percentile per-packet one-way delay: 54.035 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.63 Mbit/s
  95th percentile per-packet one-way delay: 50.723 ms
  Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2018-01-26 19:41:16
End at: 2018-01-26 19:41:46

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.28 Mbit/s
  95th percentile per-packet one-way delay: 50.717 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 50.484 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.44 Mbit/s
  95th percentile per-packet one-way delay: 50.502 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 0.61 Mbit/s
  95th percentile per-packet one-way delay: 50.797 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Graph showing throughput and delay over time for different flows.]

Flow 1 ingress (mean 2.25 Mbit/s)  
Flow 1 egress (mean 2.25 Mbit/s)  
Flow 2 ingress (mean 1.44 Mbit/s)  
Flow 2 egress (mean 1.44 Mbit/s)  
Flow 3 ingress (mean 0.61 Mbit/s)  
Flow 3 egress (mean 0.61 Mbit/s)  

Flow 1 (95th percentile 50.48 ms)  
Flow 2 (95th percentile 50.50 ms)  
Flow 3 (95th percentile 50.80 ms)
Run 6: Statistics of WebRTC media


# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.26 Mbit/s
  95th percentile per-packet one-way delay: 53.796 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 53.822 ms
  Loss rate: 0.11%
-- Flow 2:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 50.887 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 50.784 ms
  Loss rate: 0.00%
Run 6: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 2.25 Mbps)
- Flow 1 egress (mean 2.25 Mbps)
- Flow 2 ingress (mean 1.43 Mbps)
- Flow 2 egress (mean 1.43 Mbps)
- Flow 3 ingress (mean 0.60 Mbps)
- Flow 3 egress (mean 0.60 Mbps)

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

- Flow 1 (95th percentile 53.82 ms)
- Flow 2 (95th percentile 50.89 ms)
- Flow 3 (95th percentile 50.78 ms)
Run 7: Statistics of WebRTC media

Start at: 2018-01-26 20:09:39
End at: 2018-01-26 20:10:09

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.26 Mbit/s
  95th percentile per-packet one-way delay: 50.780 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.26 Mbit/s
  95th percentile per-packet one-way delay: 50.487 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 50.835 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 50.557 ms
  Loss rate: 0.00%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

End at: 2018-01-26 20:24:17

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.27 Mbit/s
  95th percentile per-packet one-way delay: 53.788 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 53.708 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 53.747 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 54.034 ms
  Loss rate: 0.00%
Run 8: Report of WebRTC media — Data Link

![Graph showing throughput and delay over time for different flows.]

- Flow 1 ingress (mean 2.25 Mbit/s)
- Flow 1 egress (mean 2.25 Mbit/s)
- Flow 2 ingress (mean 1.43 Mbit/s)
- Flow 2 egress (mean 1.43 Mbit/s)
- Flow 3 ingress (mean 0.60 Mbit/s)
- Flow 3 egress (mean 0.60 Mbit/s)
Run 9: Statistics of WebRTC media

Start at: 2018-01-26 20:37:47
End at: 2018-01-26 20:38:17

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.27 Mbit/s
  95th percentile per-packet one-way delay: 53.668 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 50.713 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 50.434 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 53.775 ms
  Loss rate: 0.00%
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

Start at: 2018-01-26 20:52:07
End at: 2018-01-26 20:52:37

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 54.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 53.492 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 54.068 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 53.758 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link
Run 1: Statistics of Sprout

Start at: 2018-01-26 18:37:49
End at: 2018-01-26 18:38:19

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
--- Total of 3 flows:
Average throughput: 15.54 Mbit/s
95th percentile per-packet one-way delay: 54.569 ms
Loss rate: 0.01%
--- Flow 1:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 54.542 ms
Loss rate: 0.02%
--- Flow 2:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 54.651 ms
Loss rate: 0.00%
--- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 54.415 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

![Graph showing network throughput and packet round-trip time over time for different flows.]

- **Throughput (Mbps)**
  - **Flow 1 ingress (mean 7.89 Mbps)**
  - **Flow 1 egress (mean 7.89 Mbps)**
  - **Flow 2 ingress (mean 7.75 Mbps)**
  - **Flow 2 egress (mean 7.75 Mbps)**
  - **Flow 3 ingress (mean 7.59 Mbps)**
  - **Flow 3 egress (mean 7.59 Mbps)**

- **Per packet one-way delay (ms)**
  - **Flow 1 (95th percentile 54.54 ms)**
  - **Flow 2 (95th percentile 54.65 ms)**
  - **Flow 3 (95th percentile 54.41 ms)**
Run 2: Statistics of Sprout

Start at: 2018-01-26 18:51:41
End at: 2018-01-26 18:52:11

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.46 Mbit/s
95th percentile per-packet one-way delay: 51.486 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 51.456 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 51.500 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.19 Mbit/s
95th percentile per-packet one-way delay: 51.590 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link

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

![Graph showing per-packet one-way delay over time for different flow 95th percentiles.]

Flow 1 ingress (mean 7.92 Mbit/s)
Flow 1 egress (mean 7.92 Mbit/s)
Flow 2 ingress (mean 7.79 Mbit/s)
Flow 2 egress (mean 7.79 Mbit/s)
Flow 3 ingress (mean 7.18 Mbit/s)
Flow 3 egress (mean 7.19 Mbit/s)

Flow 1 (95th percentile 51.46 ms)
Flow 2 (95th percentile 51.50 ms)
Flow 3 (95th percentile 51.59 ms)
Run 3: Statistics of Sprout

Start at: 2018-01-26 19:05:58
End at: 2018-01-26 19:06:28

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 15.39 Mbit/s
  95th percentile per-packet one-way delay: 54.592 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.92 Mbit/s
  95th percentile per-packet one-way delay: 54.599 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.57 Mbit/s
  95th percentile per-packet one-way delay: 54.447 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 7.39 Mbit/s
  95th percentile per-packet one-way delay: 54.899 ms
  Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 7.92 Mbps)**
- **Flow 1 egress (mean 7.92 Mbps)**
- **Flow 2 ingress (mean 7.57 Mbps)**
- **Flow 2 egress (mean 7.57 Mbps)**
- **Flow 3 ingress (mean 7.39 Mbps)**
- **Flow 3 egress (mean 7.39 Mbps)**

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

- **Flow 1 (95th percentile 54.60 ms)**
- **Flow 2 (95th percentile 54.45 ms)**
- **Flow 3 (95th percentile 54.90 ms)**
Run 4: Statistics of Sprout

Start at: 2018-01-26 19:20:12
End at: 2018-01-26 19:20:42

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.36 Mbit/s
95th percentile per-packet one-way delay: 54.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 54.889 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.68 Mbit/s
95th percentile per-packet one-way delay: 54.747 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 54.904 ms
Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

![Graph showing throughput and packet one-way delay over time for different flows.]

- **Throughput (Mbps)**: The graph illustrates the throughput in Mbps over a 30-second period for four different flows, labeled as Flow 1 ingress, Flow 2 ingress, Flow 3 ingress, Flow 1 egress, Flow 2 egress, and Flow 3 egress.
- **Packet One-Way Delay (ms)**: The lower graph shows the packet one-way delay for each flow, with 95th percentiles indicated.

Flow 1 ingress (mean 7.89 Mbps/s), Flow 1 egress (mean 7.89 Mbps/s), Flow 2 ingress (mean 7.66 Mbps/s), Flow 2 egress (mean 7.66 Mbps/s), Flow 3 ingress (mean 7.14 Mbps/s), Flow 3 egress (mean 7.14 Mbps/s)

- **Flow 1 (95th percentile 54.89 ms)**
- **Flow 2 (95th percentile 54.75 ms)**
- **Flow 3 (95th percentile 54.90 ms)**
Run 5: Statistics of Sprout

Start at: 2018-01-26 19:34:26
End at: 2018-01-26 19:34:56

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 15.66 Mbit/s
  95th percentile per-packet one-way delay: 51.990 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.99 Mbit/s
  95th percentile per-packet one-way delay: 51.972 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.76 Mbit/s
  95th percentile per-packet one-way delay: 52.079 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 7.63 Mbit/s
  95th percentile per-packet one-way delay: 51.944 ms
  Loss rate: 0.00%
Run 5: Report of Sprout — Data Link

![Graph showing throughput and round-trip time for different flows over time.]

- Throughput (Mbps): Daily fluctuations with a general trend towards stabilization.
- Round-trip time: Consistent with minimal variation across flows.

Legend:
- Flow 1 ingress (mean 7.99 Mbps)
- Flow 1 egress (mean 7.99 Mbps)
- Flow 2 ingress (mean 7.76 Mbps)
- Flow 2 egress (mean 7.76 Mbps)
- Flow 3 ingress (mean 7.63 Mbps)
- Flow 3 egress (mean 7.63 Mbps)
Run 6: Statistics of Sprout


# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 54.335 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 54.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 54.436 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 51.731 ms
Loss rate: 0.00%
Run 6: Report of Sprout — Data Link
Run 7: Statistics of Sprout

Start at: 2018-01-26 20:02:40
End at: 2018-01-26 20:03:10

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.48 Mbit/s
95th percentile per-packet one-way delay: 54.544 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 54.568 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 54.573 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 54.221 ms
Loss rate: 0.00%
Run 7: Report of Sprout — Data Link

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

![Graph 2: Per-packet end-to-end delay (ms) vs Time (s)]
Run 8: Statistics of Sprout

Start at: 2018-01-26 20:17:14
End at: 2018-01-26 20:17:44

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 15.27 Mbit/s
  95th percentile per-packet one-way delay: 54.595 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 7.73 Mbit/s
  95th percentile per-packet one-way delay: 54.569 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.76 Mbit/s
  95th percentile per-packet one-way delay: 54.611 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 7.32 Mbit/s
  95th percentile per-packet one-way delay: 54.623 ms
  Loss rate: 0.10%
Run 8: Report of Sprout — Data Link

Throughput (Mbps/s)

Time (s)

Flow 1 ingress (mean 7.73 Mbps/s)
Flow 1 egress (mean 7.73 Mbps/s)
Flow 2 ingress (mean 7.74 Mbps/s)
Flow 2 egress (mean 7.76 Mbps/s)
Flow 3 ingress (mean 7.33 Mbps/s)
Flow 3 egress (mean 7.32 Mbps/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 54.57 ms)
Flow 2 (95th percentile 54.61 ms)
Flow 3 (95th percentile 54.62 ms)
Run 9: Statistics of Sprout

Start at: 2018-01-26 20:30:59
End at: 2018-01-26 20:31:29

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 15.55 Mbit/s
  95th percentile per-packet one-way delay: 54.328 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.88 Mbit/s
  95th percentile per-packet one-way delay: 54.455 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 7.74 Mbit/s
  95th percentile per-packet one-way delay: 54.104 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 7.66 Mbit/s
  95th percentile per-packet one-way delay: 51.611 ms
  Loss rate: 0.00%
Run 10: Statistics of Sprout

Start at: 2018-01-26 20:45:14
End at: 2018-01-26 20:45:44

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.46 Mbit/s
95th percentile per-packet one-way delay: 54.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 54.522 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.83 Mbit/s
95th percentile per-packet one-way delay: 54.422 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 51.813 ms
Loss rate: 0.00%
Run 10: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2018-01-26 18:39:25
End at: 2018-01-26 18:39:55

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 197.35 Mbit/s
  95th percentile per-packet one-way delay: 53.753 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 122.53 Mbit/s
  95th percentile per-packet one-way delay: 53.762 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 11.77 Mbit/s
  95th percentile per-packet one-way delay: 54.600 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 237.24 Mbit/s
  95th percentile per-packet one-way delay: 50.483 ms
  Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2018-01-26 18:53:16
End at: 2018-01-26 18:53:46

# Below is generated by plot.py at 2018-01-26 22:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.86 Mbit/s
95th percentile per-packet one-way delay: 53.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 131.05 Mbit/s
95th percentile per-packet one-way delay: 50.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 53.978 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.34 Mbit/s
95th percentile per-packet one-way delay: 53.955 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-01-26 19:07:33
End at: 2018-01-26 19:08:03

# Below is generated by plot.py at 2018-01-26 22:46:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 422.16 Mbit/s
  95th percentile per-packet one-way delay: 59.872 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 226.91 Mbit/s
  95th percentile per-packet one-way delay: 61.284 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 209.83 Mbit/s
  95th percentile per-packet one-way delay: 59.587 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 213.19 Mbit/s
  95th percentile per-packet one-way delay: 52.655 ms
  Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 226.91 Mbps)
- Flow 1 egress (mean 226.91 Mbps)
- Flow 2 ingress (mean 209.83 Mbps)
- Flow 2 egress (mean 209.83 Mbps)
- Flow 3 ingress (mean 213.14 Mbps)
- Flow 3 egress (mean 213.19 Mbps)

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

- Flow 1 (95th percentile 61.28 ms)
- Flow 2 (95th percentile 59.59 ms)
- Flow 3 (95th percentile 52.66 ms)
Run 4: Statistics of TaoVA-100x


# Below is generated by plot.py at 2018-01-26 22:46:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 150.97 Mbit/s
  95th percentile per-packet one-way delay: 56.145 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 44.01 Mbit/s
  95th percentile per-packet one-way delay: 53.895 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 88.03 Mbit/s
  95th percentile per-packet one-way delay: 54.022 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 177.53 Mbit/s
  95th percentile per-packet one-way delay: 62.488 ms
  Loss rate: 0.01%
Run 4: Report of TaoVA-100x — Data Link

![Throughput Graph](image)

- Flow 1 ingress (mean 44.01 Mbit/s)
- Flow 1 egress (mean 44.01 Mbit/s)
- Flow 2 ingress (mean 88.04 Mbit/s)
- Flow 2 egress (mean 88.03 Mbit/s)
- Flow 3 ingress (mean 177.49 Mbit/s)
- Flow 3 egress (mean 177.53 Mbit/s)

![Delay Graph](image)

- Flow 1 (95th percentile 53.90 ms)
- Flow 2 (95th percentile 54.02 ms)
- Flow 3 (95th percentile 62.49 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-01-26 19:36:02
End at: 2018-01-26 19:36:32

# Below is generated by plot.py at 2018-01-26 22:46:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.75 Mbit/s
95th percentile per-packet one-way delay: 53.897 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 177.66 Mbit/s
95th percentile per-packet one-way delay: 50.775 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.49 Mbit/s
95th percentile per-packet one-way delay: 54.087 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.48 Mbit/s
95th percentile per-packet one-way delay: 50.607 ms
Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link

![Throughput (Mbps)](image)

- Flow 1 ingress (mean 177.65 Mbps)
- Flow 1 egress (mean 177.66 Mbps)
- Flow 2 ingress (mean 63.49 Mbps)
- Flow 2 egress (mean 63.49 Mbps)
- Flow 3 ingress (mean 212.47 Mbps)
- Flow 3 egress (mean 212.48 Mbps)

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

- Flow 1 (95th percentile 50.77 ms)
- Flow 2 (95th percentile 54.09 ms)
- Flow 3 (95th percentile 55.61 ms)
Run 6: Statistics of TaoVA-100x

Start at: 2018-01-26 19:50:03
End at: 2018-01-26 19:50:33

# Below is generated by plot.py at 2018-01-26 22:46:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 168.14 Mbit/s
  95th percentile per-packet one-way delay: 53.594 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 27.70 Mbit/s
  95th percentile per-packet one-way delay: 53.659 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 110.59 Mbit/s
  95th percentile per-packet one-way delay: 53.551 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 244.77 Mbit/s
  95th percentile per-packet one-way delay: 50.575 ms
  Loss rate: 0.00%
Run 6: Report of TaoVA-100x — Data Link
Run 7: Statistics of TaoVA-100x

Start at: 2018-01-26 20:04:16
End at: 2018-01-26 20:04:46

# Below is generated by plot.py at 2018-01-26 22:47:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 327.03 Mbit/s
  95th percentile per-packet one-way delay: 54.487 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 232.60 Mbit/s
  95th percentile per-packet one-way delay: 53.401 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 127.55 Mbit/s
  95th percentile per-packet one-way delay: 57.390 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 44.95 Mbit/s
  95th percentile per-packet one-way delay: 53.996 ms
  Loss rate: 0.01%
Run 7: Report of TaoVA-100x — Data Link

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

*Legend for Graph 1:*
- Blue dashed line: Flow 1 ingress (mean 232.60 Mbps)
- Blue solid line: Flow 1 egress (mean 232.60 Mbps)
- Green dashed line: Flow 2 ingress (mean 127.54 Mbps)
- Green solid line: Flow 2 egress (mean 127.55 Mbps)
- Red dashed line: Flow 3 ingress (mean 44.96 Mbps)
- Red solid line: Flow 3 egress (mean 44.96 Mbps)

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

*Legend for Graph 2:*
- Blue circle: Flow 1 (95th percentile 53.40 ms)
- Green circle: Flow 2 (95th percentile 57.39 ms)
- Red circle: Flow 3 (95th percentile 54.00 ms)
Run 8: Statistics of TaoVA-100x

Start at: 2018-01-26 20:18:50
End at: 2018-01-26 20:19:20

# Below is generated by plot.py at 2018-01-26 22:47:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.62 Mbit/s
95th percentile per-packet one-way delay: 53.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 120.17 Mbit/s
95th percentile per-packet one-way delay: 53.915 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 138.95 Mbit/s
95th percentile per-packet one-way delay: 50.711 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 68.89 Mbit/s
95th percentile per-packet one-way delay: 53.649 ms
Loss rate: 0.00%
Run 8: Report of TaoVA-100x — Data Link

![Graph showing throughput and delay over time for different flows.](image)
Run 9: Statistics of TaoVA-100x

Start at: 2018-01-26 20:32:34
End at: 2018-01-26 20:33:04

# Below is generated by plot.py at 2018-01-26 22:47:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 271.40 Mbit/s
  95th percentile per-packet one-way delay: 51.927 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 247.28 Mbit/s
  95th percentile per-packet one-way delay: 50.562 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 21.70 Mbit/s
  95th percentile per-packet one-way delay: 54.390 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 36.00 Mbit/s
  95th percentile per-packet one-way delay: 54.326 ms
  Loss rate: 0.00%
Run 9: Report of TaoVA-100x — Data Link
Run 10: Statistics of TaoVA-100x

Start at: 2018-01-26 20:46:52
End at: 2018-01-26 20:47:22

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.15 Mbit/s
  95th percentile per-packet one-way delay: 53.832 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 224.95 Mbit/s
  95th percentile per-packet one-way delay: 53.823 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 15.45 Mbit/s
  95th percentile per-packet one-way delay: 55.181 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 226.62 Mbit/s
  95th percentile per-packet one-way delay: 53.803 ms
  Loss rate: 0.00%
Run 10: Report of TaoVA-100x — Data Link

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 224.92 Mbit/s)
- Flow 1 egress (mean 224.95 Mbit/s)
- Flow 2 ingress (mean 15.46 Mbit/s)
- Flow 2 egress (mean 15.45 Mbit/s)
- Flow 3 ingress (mean 226.64 Mbit/s)
- Flow 3 egress (mean 226.62 Mbit/s)

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

- Flow 1 (95th percentile 53.82 ms)
- Flow 2 (95th percentile 55.18 ms)
- Flow 3 (95th percentile 53.80 ms)
Run 1: Statistics of TCP Vegas

Start at: 2018-01-26 18:41:53
End at: 2018-01-26 18:42:23

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 107.29 Mbit/s
  95th percentile per-packet one-way delay: 51.777 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 54.94 Mbit/s
  95th percentile per-packet one-way delay: 51.460 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 12.36 Mbit/s
  95th percentile per-packet one-way delay: 51.334 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 133.77 Mbit/s
  95th percentile per-packet one-way delay: 52.441 ms
  Loss rate: 0.00%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput and packet one-way delay over time for different flows.](image-url)
Run 2: Statistics of TCP Vegas

End at: 2018-01-26 18:56:17

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.35 Mbit/s
95th percentile per-packet one-way delay: 54.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.76 Mbit/s
95th percentile per-packet one-way delay: 54.184 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.65 Mbit/s
95th percentile per-packet one-way delay: 54.108 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 53.812 ms
Loss rate: 0.08%
Run 2: Report of TCP Vegas — Data Link

![Graph showing TCP Vegas data link throughput and packet error rate over time]

- Flow 1 ingress (mean 83.76 Mbit/s)
- Flow 1 egress (mean 83.76 Mbit/s)
- Flow 2 ingress (mean 59.64 Mbit/s)
- Flow 2 egress (mean 59.65 Mbit/s)
- Flow 3 ingress (mean 6.12 Mbit/s)
- Flow 3 egress (mean 6.12 Mbit/s)

![Graph showing packet error rate over time]

- Flow 1 (95th percentile 54.18 ms)
- Flow 2 (95th percentile 54.11 ms)
- Flow 3 (95th percentile 53.81 ms)
Run 3: Statistics of TCP Vegas

Start at: 2018-01-26 19:10:24
End at: 2018-01-26 19:10:54

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 153.84 Mbit/s
95th percentile per-packet one-way delay: 53.938 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 111.86 Mbit/s
95th percentile per-packet one-way delay: 53.997 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 53.832 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 106.14 Mbit/s
95th percentile per-packet one-way delay: 51.998 ms
Loss rate: 0.00%
Run 3: Report of TCP Vegas — Data Link

![Throughput (Mbps)](image1)

- **Flow 1 ingress (mean 111.85 Mbps)**
- **Flow 1 egress (mean 111.86 Mbps)**
- **Flow 2 ingress (mean 10.32 Mbps)**
- **Flow 2 egress (mean 10.32 Mbps)**
- **Flow 3 ingress (mean 106.10 Mbps)**
- **Flow 3 egress (mean 106.14 Mbps)**

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

- **Flow 1 (95th percentile 54.00 ms)**
- **Flow 2 (95th percentile 53.83 ms)**
- **Flow 3 (95th percentile 52.00 ms)**

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Run 4: Statistics of TCP Vegas

Start at: 2018-01-26 19:24:12
End at: 2018-01-26 19:24:42

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.29 Mbit/s
95th percentile per-packet one-way delay: 54.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.34 Mbit/s
95th percentile per-packet one-way delay: 54.312 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.06 Mbit/s
95th percentile per-packet one-way delay: 51.584 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 51.549 ms
Loss rate: 0.00%
Run 4: Report of TCP Vegas — Data Link

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

- **Flow 1** (ingress mean 60.34 Mbit/s, egress mean 60.34 Mbit/s)
- **Flow 2** (ingress mean 19.06 Mbit/s, egress mean 19.06 Mbit/s)
- **Flow 3** (ingress mean 73.48 Mbit/s, egress mean 73.48 Mbit/s)

![Graph showing packet delay over time for different flows.](image-url)

- **Flow 1** (95th percentile 54.31 ms)
- **Flow 2** (95th percentile 51.58 ms)
- **Flow 3** (95th percentile 51.55 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-01-26 19:38:38
End at: 2018-01-26 19:39:08

# Below is generated by plot.py at 2018-01-26 22:48:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.25 Mbit/s
95th percentile per-packet one-way delay: 56.219 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.92 Mbit/s
95th percentile per-packet one-way delay: 54.407 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 115.93 Mbit/s
95th percentile per-packet one-way delay: 57.344 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 84.86 Mbit/s
95th percentile per-packet one-way delay: 54.559 ms
Loss rate: 0.00%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-01-26 19:52:31
End at: 2018-01-26 19:53:01

# Below is generated by plot.py at 2018-01-26 22:48:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 244.34 Mbit/s
  95th percentile per-packet one-way delay: 56.398 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 119.16 Mbit/s
  95th percentile per-packet one-way delay: 56.053 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 89.62 Mbit/s
  95th percentile per-packet one-way delay: 57.811 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 197.56 Mbit/s
  95th percentile per-packet one-way delay: 54.961 ms
  Loss rate: 0.00%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-01-26 20:06:59
End at: 2018-01-26 20:07:29

# Below is generated by plot.py at 2018-01-26 22:48:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 225.57 Mbit/s
  95th percentile per-packet one-way delay: 55.846 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 121.39 Mbit/s
  95th percentile per-packet one-way delay: 51.664 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 115.09 Mbit/s
  95th percentile per-packet one-way delay: 57.746 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 83.41 Mbit/s
  95th percentile per-packet one-way delay: 53.263 ms
  Loss rate: 0.00%
Run 7: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 121.38 Mbit/s)
- Flow 1 egress (mean 121.39 Mbit/s)
- Flow 2 ingress (mean 115.09 Mbit/s)
- Flow 2 egress (mean 115.09 Mbit/s)
- Flow 3 ingress (mean 83.38 Mbit/s)
- Flow 3 egress (mean 83.41 Mbit/s)

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

- Flow 1 (95th percentile 51.66 ms)
- Flow 2 (95th percentile 57.75 ms)
- Flow 3 (95th percentile 53.26 ms)
Run 8: Statistics of TCP Vegas

Start at: 2018-01-26 20:21:12
End at: 2018-01-26 20:21:42

# Below is generated by plot.py at 2018-01-26 22:48:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 108.97 Mbit/s
  95th percentile per-packet one-way delay: 54.412 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 10.63 Mbit/s
  95th percentile per-packet one-way delay: 54.385 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 143.46 Mbit/s
  95th percentile per-packet one-way delay: 54.411 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 8.58 Mbit/s
  95th percentile per-packet one-way delay: 54.512 ms
  Loss rate: 0.00%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-01-26 20:35:10
End at: 2018-01-26 20:35:40

# Below is generated by plot.py at 2018-01-26 22:49:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.95 Mbit/s
95th percentile per-packet one-way delay: 56.726 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 145.45 Mbit/s
95th percentile per-packet one-way delay: 56.831 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.50 Mbit/s
95th percentile per-packet one-way delay: 55.605 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 54.171 ms
Loss rate: 0.00%
Run 9: Report of TCP Vegas — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 145.46 Mbit/s)
- Blue solid line: Flow 1 egress (mean 145.54 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 47.51 Mbit/s)
- Green solid line: Flow 2 egress (mean 47.50 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 8.83 Mbit/s)
- Red solid line: Flow 3 egress (mean 8.82 Mbit/s)
Run 10: Statistics of TCP Vegas

Start at: 2018-01-26 20:49:30
End at: 2018-01-26 20:50:00

# Below is generated by plot.py at 2018-01-26 22:49:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 175.48 Mbit/s
  95th percentile per-packet one-way delay: 59.691 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 58.82 Mbit/s
  95th percentile per-packet one-way delay: 57.160 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 156.43 Mbit/s
  95th percentile per-packet one-way delay: 60.008 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 37.95 Mbit/s
  95th percentile per-packet one-way delay: 56.971 ms
  Loss rate: 0.00%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-01-26 18:43:20
End at: 2018-01-26 18:43:50

# Below is generated by plot.py at 2018-01-26 22:53:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.30 Mbit/s
95th percentile per-packet one-way delay: 151.136 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 257.27 Mbit/s
95th percentile per-packet one-way delay: 152.197 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 136.62 Mbit/s
95th percentile per-packet one-way delay: 150.984 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 145.519 ms
Loss rate: 0.72%
Run 1: Report of Verus — Data Link

---

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 258.16 Mbit/s)
- Flow 1 egress (mean 257.27 Mbit/s)
- Flow 2 ingress (mean 138.46 Mbit/s)
- Flow 2 egress (mean 136.62 Mbit/s)
- Flow 3 ingress (mean 74.27 Mbit/s)
- Flow 3 egress (mean 73.76 Mbit/s)

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

- Flow 1 (95th percentile 152.20 ms)
- Flow 2 (95th percentile 150.98 ms)
- Flow 3 (95th percentile 145.52 ms)
Run 2: Statistics of Verus

Start at: 2018-01-26 18:57:16  
End at: 2018-01-26 18:57:46

# Below is generated by plot.py at 2018-01-26 22:53:23  
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.05 Mbit/s
95th percentile per-packet one-way delay: 135.712 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 245.83 Mbit/s
95th percentile per-packet one-way delay: 114.447 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 153.12 Mbit/s
95th percentile per-packet one-way delay: 179.867 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 76.42 Mbit/s
95th percentile per-packet one-way delay: 120.700 ms
Loss rate: 0.08%
Run 2: Report of Verus — Data Link

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 248.37 Mbit/s)
- Flow 1 egress (mean 245.83 Mbit/s)
- Flow 2 ingress (mean 154.12 Mbit/s)
- Flow 2 egress (mean 153.12 Mbit/s)
- Flow 3 ingress (mean 76.43 Mbit/s)
- Flow 3 egress (mean 76.42 Mbit/s)

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

- Flow 1 (95th percentile 114.45 ms)
- Flow 2 (95th percentile 179.87 ms)
- Flow 3 (95th percentile 120.70 ms)
Run 3: Statistics of Verus

Start at: 2018-01-26 19:11:54  
End at: 2018-01-26 19:12:24

# Below is generated by plot.py at 2018-01-26 22:54:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 409.01 Mbit/s  
95th percentile per-packet one-way delay: 127.084 ms  
Loss rate: 0.96%  
-- Flow 1:  
Average throughput: 251.44 Mbit/s  
95th percentile per-packet one-way delay: 107.914 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 158.59 Mbit/s  
95th percentile per-packet one-way delay: 113.986 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 158.34 Mbit/s  
95th percentile per-packet one-way delay: 198.483 ms  
Loss rate: 5.43%
Run 3: Report of Verus — Data Link

---

### Throughput (Mb/s)

- **Flow 1 Ingress (mean 252.01 Mb/s)**
- **Flow 1 Egress (mean 251.44 Mb/s)**
- **Flow 2 Ingress (mean 159.40 Mb/s)**
- **Flow 2 Egress (mean 158.59 Mb/s)**
- **Flow 3 Ingress (mean 167.42 Mb/s)**
- **Flow 3 Egress (mean 158.34 Mb/s)**

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

- **Flow 1 (95th percentile 107.91 ms)**
- **Flow 2 (95th percentile 113.99 ms)**
- **Flow 3 (95th percentile 148.48 ms)**
Run 4: Statistics of Verus

Start at: 2018-01-26 19:25:38
End at: 2018-01-26 19:26:08

# Below is generated by plot.py at 2018-01-26 22:54:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.49 Mbit/s
95th percentile per-packet one-way delay: 173.656 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 266.56 Mbit/s
95th percentile per-packet one-way delay: 134.910 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 174.49 Mbit/s
95th percentile per-packet one-way delay: 236.569 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 154.779 ms
Loss rate: 2.53%
Run 4: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 268.52 Mbps)  
Flow 1 egress (mean 266.56 Mbps)
Flow 2 ingress (mean 169.02 Mbps)  
Flow 2 egress (mean 174.49 Mbps)
Flow 3 ingress (mean 78.63 Mbps)  
Flow 3 egress (mean 77.02 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 134.91 ms)  
Flow 2 (95th percentile 236.57 ms)  
Flow 3 (95th percentile 154.78 ms)
Run 5: Statistics of Verus

Start at: 2018-01-26 19:40:10
End at: 2018-01-26 19:40:40

# Below is generated by plot.py at 2018-01-26 22:54:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 382.80 Mbit/s
  95th percentile per-packet one-way delay: 134.190 ms
  Loss rate: 1.89%
-- Flow 1:
  Average throughput: 219.24 Mbit/s
  95th percentile per-packet one-way delay: 135.087 ms
  Loss rate: 1.56%
-- Flow 2:
  Average throughput: 194.50 Mbit/s
  95th percentile per-packet one-way delay: 147.854 ms
  Loss rate: 2.94%
-- Flow 3:
  Average throughput: 104.87 Mbit/s
  95th percentile per-packet one-way delay: 116.082 ms
  Loss rate: 0.00%
Run 5: Report of Verus — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress (mean 222.70 Mbps)**
- **Flow 1 egress (mean 219.24 Mbps)**
- **Flow 2 ingress (mean 200.29 Mbps)**
- **Flow 2 egress (mean 194.50 Mbps)**
- **Flow 3 ingress (mean 104.93 Mbps)**
- **Flow 3 egress (mean 104.87 Mbps)**

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

- **Flow 1 (95th percentile 135.09 ms)**
- **Flow 2 (95th percentile 147.85 ms)**
- **Flow 3 (95th percentile 116.08 ms)**

---
Run 6: Statistics of Verus

Start at: 2018-01-26 19:54:05
End at: 2018-01-26 19:54:35

# Below is generated by plot.py at 2018-01-26 22:55:22
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 405.26  Mbit/s
 95th percentile per-packet one-way delay: 136.609 ms
 Loss rate: 0.59%
-- Flow 1:
 Average throughput: 230.52  Mbit/s
 95th percentile per-packet one-way delay: 125.230 ms
 Loss rate: 0.22%
-- Flow 2:
 Average throughput: 187.96  Mbit/s
 95th percentile per-packet one-way delay: 160.341 ms
 Loss rate: 1.33%
-- Flow 3:
 Average throughput: 151.88  Mbit/s
 95th percentile per-packet one-way delay: 133.021 ms
 Loss rate: 0.40%
Run 6: Report of Verus — Data Link

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

- Flow 1 ingress (mean 231.15 Mb/s)
- Flow 1 egress (mean 230.52 Mb/s)
- Flow 2 ingress (mean 190.50 Mb/s)
- Flow 2 egress (mean 187.96 Mb/s)
- Flow 3 ingress (mean 152.49 Mb/s)
- Flow 3 egress (mean 151.88 Mb/s)

![Graph 2: Per-packet latency over time](image2)

- Flow 1 (95th percentile 125.23 ms)
- Flow 2 (95th percentile 160.34 ms)
- Flow 3 (95th percentile 133.02 ms)
Run 7: Statistics of Verus

Start at: 2018-01-26 20:08:33
End at: 2018-01-26 20:09:03

# Below is generated by plot.py at 2018-01-26 22:55:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.04 Mbit/s
95th percentile per-packet one-way delay: 129.642 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 225.44 Mbit/s
95th percentile per-packet one-way delay: 131.038 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 208.84 Mbit/s
95th percentile per-packet one-way delay: 125.089 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 75.95 Mbit/s
95th percentile per-packet one-way delay: 152.825 ms
Loss rate: 0.00%
Run 7: Report of Verus — Data Link

![Graph showing throughput and per-packet delay over time for different flows.](image)

- **Flow 1**: Ingress (mean 229.17 Mb/s), Egress (mean 225.44 Mb/s)
- **Flow 2**: Ingress (mean 209.77 Mb/s), Egress (mean 208.84 Mb/s)
- **Flow 3**: Ingress (mean 76.22 Mb/s), Egress (mean 75.95 Mb/s)
Run 8: Statistics of Verus

Start at: 2018-01-26 20:22:40
End at: 2018-01-26 20:23:10

# Below is generated by plot.py at 2018-01-26 22:56:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.67 Mbit/s
95th percentile per-packet one-way delay: 107.986 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 263.01 Mbit/s
95th percentile per-packet one-way delay: 109.148 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 137.46 Mbit/s
95th percentile per-packet one-way delay: 96.356 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.87 Mbit/s
95th percentile per-packet one-way delay: 110.321 ms
Loss rate: 0.00%
Run 8: Report of Verus — Data Link

![Graph 1: Throughput](image1)

- Flow 1 ingress (mean 263.55 Mbit/s)
- Flow 1 egress (mean 263.01 Mbit/s)
- Flow 2 ingress (mean 137.45 Mbit/s)
- Flow 2 egress (mean 137.46 Mbit/s)
- Flow 3 ingress (mean 151.14 Mbit/s)
- Flow 3 egress (mean 132.87 Mbit/s)

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

- Flow 1 (95th percentile 109.15 ms)
- Flow 2 (95th percentile 96.36 ms)
- Flow 3 (95th percentile 110.32 ms)
Run 9: Statistics of Verus

Start at: 2018-01-26 20:36:41
End at: 2018-01-26 20:37:11

# Below is generated by plot.py at 2018-01-26 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.83 Mbit/s
95th percentile per-packet one-way delay: 114.252 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 227.82 Mbit/s
95th percentile per-packet one-way delay: 113.222 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 144.28 Mbit/s
95th percentile per-packet one-way delay: 123.226 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 178.41 Mbit/s
95th percentile per-packet one-way delay: 102.885 ms
Loss rate: 0.00%
Run 9: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 227.82 Mbit/s)**
- **Flow 1 egress (mean 227.82 Mbit/s)**
- **Flow 2 ingress (mean 144.32 Mbit/s)**
- **Flow 2 egress (mean 144.28 Mbit/s)**
- **Flow 3 ingress (mean 176.42 Mbit/s)**
- **Flow 3 egress (mean 176.41 Mbit/s)**

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

- **Flow 1 (95th percentile 113.22 ms)**
- **Flow 2 (95th percentile 123.23 ms)**
- **Flow 3 (95th percentile 102.89 ms)**
Run 10: Statistics of Verus

Start at: 2018-01-26 20:51:01
End at: 2018-01-26 20:51:31

# Below is generated by plot.py at 2018-01-26 23:00:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 373.05 Mbit/s
  95th percentile per-packet one-way delay: 153.857 ms
  Loss rate: 1.00%
-- Flow 1:
  Average throughput: 217.60 Mbit/s
  95th percentile per-packet one-way delay: 141.303 ms
  Loss rate: 1.07%
-- Flow 2:
  Average throughput: 193.91 Mbit/s
  95th percentile per-packet one-way delay: 168.660 ms
  Loss rate: 0.95%
-- Flow 3:
  Average throughput: 81.36 Mbit/s
  95th percentile per-packet one-way delay: 154.623 ms
  Loss rate: 0.60%
Run 10: Report of Verus — Data Link

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

- **Flow 1 ingress** (mean 219.98 Mbit/s)
- **Flow 1 egress** (mean 217.60 Mbit/s)
- **Flow 2 ingress** (mean 195.74 Mbit/s)
- **Flow 2 egress** (mean 193.91 Mbit/s)
- **Flow 3 ingress** (mean 81.79 Mbit/s)
- **Flow 3 egress** (mean 81.36 Mbit/s)

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

- **Flow 1** (95th percentile 141.30 ms)
- **Flow 2** (95th percentile 168.66 ms)
- **Flow 3** (95th percentile 154.62 ms)
Run 1: Statistics of Copa

Start at: 2018-01-26 18:31:57
End at: 2018-01-26 18:32:27

# Below is generated by plot.py at 2018-01-26 23:00:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.52 Mbit/s
95th percentile per-packet one-way delay: 53.736 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.56 Mbit/s
95th percentile per-packet one-way delay: 53.720 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 53.761 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 53.734 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-01-26 18:46:09
End at: 2018-01-26 18:46:39

# Below is generated by plot.py at 2018-01-26 23:00:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.11 Mbit/s
95th percentile per-packet one-way delay: 53.873 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 53.965 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 73.57 Mbit/s
95th percentile per-packet one-way delay: 53.784 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 50.137 ms
Loss rate: 0.00%
Run 2: Report of Copa — Data Link

![Graph showing network performance metrics over time.]

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 57.23 Mbps) (blue)
  - Flow 1 egress (mean 57.23 Mbps) (red)
  - Flow 2 ingress (mean 73.58 Mbps) (green)
  - Flow 2 egress (mean 73.57 Mbps) (dotted green)
  - Flow 3 ingress (mean 93.99 Mbps) (gray)
  - Flow 3 egress (mean 93.99 Mbps) (dotted gray)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 53.97 ms) (blue)
  - Flow 2 (95th percentile 53.78 ms) (green)
  - Flow 3 (95th percentile 50.14 ms) (red)
Run 3: Statistics of Copa

Start at: 2018-01-26 19:00:04
End at: 2018-01-26 19:00:34

# Below is generated by plot.py at 2018-01-26 23:00:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 145.69 Mbit/s
  95th percentile per-packet one-way delay: 53.837 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 82.73 Mbit/s
  95th percentile per-packet one-way delay: 53.509 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 70.86 Mbit/s
  95th percentile per-packet one-way delay: 53.931 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 61.73 Mbit/s
  95th percentile per-packet one-way delay: 53.815 ms
  Loss rate: 0.00%
Run 4: Statistics of Copa

Start at: 2018-01-26 19:14:45
End at: 2018-01-26 19:15:15

# Below is generated by plot.py at 2018-01-26 23:00:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 139.81 Mbit/s
  95th percentile per-packet one-way delay: 53.940 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 77.51 Mbit/s
  95th percentile per-packet one-way delay: 53.952 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 74.49 Mbit/s
  95th percentile per-packet one-way delay: 53.538 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 51.20 Mbit/s
  95th percentile per-packet one-way delay: 54.112 ms
  Loss rate: 0.00%
Run 4: Report of Copa — Data Link

0 5 10 15 20 25
Time (s)
0 20 40 60 80 100 120
Throughput (Mbit/s)

Flow 1 ingress (mean 77.51 Mbit/s)
Flow 1 egress (mean 77.51 Mbit/s)
Flow 2 ingress (mean 74.51 Mbit/s)
Flow 2 egress (mean 74.49 Mbit/s)
Flow 3 ingress (mean 51.20 Mbit/s)
Flow 3 egress (mean 51.20 Mbit/s)

0 5 10 15 20 25
Time (s)
50.0 52.5 55.0 57.5 60.0 62.5 65.0
Per-packet one-way delay (ms)

Flow 1 (95th percentile 53.95 ms)
Flow 2 (95th percentile 53.54 ms)
Flow 3 (95th percentile 54.11 ms)
Run 5: Statistics of Copa

End at: 2018-01-26 19:28:59

# Below is generated by plot.py at 2018-01-26 23:01:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.16 Mbit/s
95th percentile per-packet one-way delay: 53.923 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 87.62 Mbit/s
95th percentile per-packet one-way delay: 53.878 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 75.00 Mbit/s
95th percentile per-packet one-way delay: 53.905 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.22 Mbit/s
95th percentile per-packet one-way delay: 53.963 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

End at: 2018-01-26 19:43:28

# Below is generated by plot.py at 2018-01-26 23:01:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 137.44 Mbit/s
  95th percentile per-packet one-way delay: 53.945 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 69.55 Mbit/s
  95th percentile per-packet one-way delay: 53.941 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 77.79 Mbit/s
  95th percentile per-packet one-way delay: 50.738 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 63.76 Mbit/s
  95th percentile per-packet one-way delay: 54.104 ms
  Loss rate: 0.00%
Run 6: Report of Copa — Data Link

![Graph of throughput and packet one way delay](image)

- **Throughput (Mbit/s):**
  - Flow 1 ingress (mean 69.56 Mbit/s)
  - Flow 1 egress (mean 69.55 Mbit/s)
  - Flow 2 ingress (mean 77.79 Mbit/s)
  - Flow 2 egress (mean 77.79 Mbit/s)
  - Flow 3 ingress (mean 63.78 Mbit/s)
  - Flow 3 egress (mean 63.76 Mbit/s)

- **Packet one way delay (ms):**
  - Flow 1 (95th percentile 53.94 ms)
  - Flow 2 (95th percentile 50.74 ms)
  - Flow 3 (95th percentile 54.10 ms)
Run 7: Statistics of Copa

Start at: 2018-01-26 19:56:55
End at: 2018-01-26 19:57:25

# Below is generated by plot.py at 2018-01-26 23:02:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.82 Mbit/s
95th percentile per-packet one-way delay: 53.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.38 Mbit/s
95th percentile per-packet one-way delay: 54.033 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 50.634 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.26 Mbit/s
95th percentile per-packet one-way delay: 53.541 ms
Loss rate: 0.00%
Run 7: Report of Copa — Data Link

![Graph showing network throughput and packet delay over time for different flows.](image)

- Flow 1 ingress (mean 63.37 Mbit/s)
- Flow 1 egress (mean 63.38 Mbit/s)
- Flow 2 ingress (mean 80.88 Mbit/s)
- Flow 2 egress (mean 80.89 Mbit/s)
- Flow 3 ingress (mean 72.27 Mbit/s)
- Flow 3 egress (mean 72.26 Mbit/s)

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

- Flow 1 (95th percentile 54.03 ms)
- Flow 2 (95th percentile 56.63 ms)
- Flow 3 (95th percentile 53.54 ms)
Run 8: Statistics of Copa

Start at: 2018-01-26 20:11:22
End at: 2018-01-26 20:11:52

# Below is generated by plot.py at 2018-01-26 23:02:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.25 Mbit/s
95th percentile per-packet one-way delay: 53.984 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.53 Mbit/s
95th percentile per-packet one-way delay: 53.996 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.78 Mbit/s
95th percentile per-packet one-way delay: 53.998 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 93.57 Mbit/s
95th percentile per-packet one-way delay: 53.679 ms
Loss rate: 0.00%
Run 8: Report of Copa — Data Link

![Graph showing data link performance](image)

![Graph showing packet error rate](image)
Run 9: Statistics of Copa

End at: 2018-01-26 20:25:58

# Below is generated by plot.py at 2018-01-26 23:03:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.72 Mbit/s
95th percentile per-packet one-way delay: 53.898 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 91.61 Mbit/s
95th percentile per-packet one-way delay: 53.953 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 71.20 Mbit/s
95th percentile per-packet one-way delay: 53.642 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 89.45 Mbit/s
95th percentile per-packet one-way delay: 50.720 ms
Loss rate: 0.00%
Run 9: Report of Copa — Data Link

![Graph showing throughput and per-packet end-to-end delay over time for different flows.](image)

- **Throughput Graph:**
  - Flow 1 ingress (mean 91.60 Mbit/s)
  - Flow 1 egress (mean 91.61 Mbit/s)
  - Flow 2 ingress (mean 71.19 Mbit/s)
  - Flow 2 egress (mean 71.20 Mbit/s)
  - Flow 3 ingress (mean 89.44 Mbit/s)
  - Flow 3 egress (mean 89.45 Mbit/s)

- **Per-packet end-to-end delay Graph:**
  - Flow 1 (95th percentile 53.95 ms)
  - Flow 2 (95th percentile 53.64 ms)
  - Flow 3 (95th percentile 50.72 ms)
Run 10: Statistics of Copa

Start at: 2018-01-26 20:39:30
End at: 2018-01-26 20:40:00

# Below is generated by plot.py at 2018-01-26 23:03:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 152.92 Mbit/s
  95th percentile per-packet one-way delay: 53.854 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 92.85 Mbit/s
  95th percentile per-packet one-way delay: 53.607 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 69.23 Mbit/s
  95th percentile per-packet one-way delay: 53.974 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 55.11 Mbit/s
  95th percentile per-packet one-way delay: 53.609 ms
  Loss rate: 0.00%
Run 10: Report of Copa — Data Link

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

- **Flow 1 ingress (mean 92.85 Mbps)**
- **Flow 1 egress (mean 92.85 Mbps)**
- **Flow 2 ingress (mean 69.24 Mbps)**
- **Flow 2 egress (mean 69.23 Mbps)**
- **Flow 3 ingress (mean 55.13 Mbps)**
- **Flow 3 egress (mean 55.11 Mbps)**

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

- **Flow 1 (95th percentile 53.61 ms)**
- **Flow 2 (95th percentile 53.97 ms)**
- **Flow 3 (95th percentile 53.61 ms)**
Run 1: Statistics of Indigo-2-256

Start at: 2018-01-26 18:35:38
End at: 2018-01-26 18:36:08

# Below is generated by plot.py at 2018-01-26 23:05:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.89 Mbit/s
95th percentile per-packet one-way delay: 54.376 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 182.43 Mbit/s
95th percentile per-packet one-way delay: 54.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 187.35 Mbit/s
95th percentile per-packet one-way delay: 54.629 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.44 Mbit/s
95th percentile per-packet one-way delay: 54.090 ms
Loss rate: 0.00%
Run 1: Report of Indigo-2-256 — Data Link

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

- Flow 1 ingress (mean 182.43 Mbit/s)
- Flow 1 egress (mean 182.43 Mbit/s)
- Flow 2 ingress (mean 187.35 Mbit/s)
- Flow 2 egress (mean 187.35 Mbit/s)
- Flow 3 ingress (mean 175.48 Mbit/s)
- Flow 3 egress (mean 175.44 Mbit/s)
Run 2: Statistics of Indigo-2-256

Start at: 2018-01-26 18:49:50
End at: 2018-01-26 18:50:20
Run 2: Report of Indigo-2-256 — Data Link
Run 3: Statistics of Indigo-2-256

Start at: 2018-01-26 19:03:46
End at: 2018-01-26 19:04:16

# Below is generated by plot.py at 2018-01-26 23:06:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 361.84 Mbit/s
  95th percentile per-packet one-way delay: 55.990 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 183.74 Mbit/s
  95th percentile per-packet one-way delay: 55.402 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 182.41 Mbit/s
  95th percentile per-packet one-way delay: 56.165 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 175.98 Mbit/s
  95th percentile per-packet one-way delay: 56.927 ms
  Loss rate: 0.00%
Run 3: Report of Indigo-2-256 — Data Link

[Graph showing throughput and per packet one-way delay for different flows over time]
Run 4: Statistics of Indigo-2-256

Start at: 2018-01-26 19:18:24
End at: 2018-01-26 19:18:54
Run 4: Report of Indigo-2-256 — Data Link

Figure is missing

Figure is missing
Run 5: Statistics of Indigo-2-256

End at: 2018-01-26 19:32:43

# Below is generated by plot.py at 2018-01-26 23:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.02 Mbit/s
95th percentile per-packet one-way delay: 54.395 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 192.32 Mbit/s
95th percentile per-packet one-way delay: 54.166 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 170.97 Mbit/s
95th percentile per-packet one-way delay: 54.429 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.91 Mbit/s
95th percentile per-packet one-way delay: 54.944 ms
Loss rate: 0.00%
Run 6: Statistics of Indigo-2-256

Start at: 2018-01-26 19:46:36
End at: 2018-01-26 19:47:06
Run 6: Report of Indigo-2-256 — Data Link
Run 7: Statistics of Indigo-2-256

Start at: 2018-01-26 20:00:39
End at: 2018-01-26 20:01:09
Run 7: Report of Indigo-2-256 — Data Link

### Throughput

![Throughput Graph](image)

- Flow 1 ingress (mean 170.79 Mbit/s)
- Flow 1 egress (mean 170.73 Mbit/s)
- Flow 2 ingress (mean 175.41 Mbit/s)
- Flow 2 egress (mean 175.36 Mbit/s)
- Flow 3 ingress (mean 165.92 Mbit/s)
- Flow 3 egress (mean 165.81 Mbit/s)

### Per packet one way delay (ms)

![Per packet one way delay Graph](image)

- Flow 1 (95th percentile 56.21 ms)
- Flow 2 (95th percentile 55.92 ms)
- Flow 3 (95th percentile 55.65 ms)
Run 8: Statistics of Indigo-2-256

Start at: 2018-01-26 20:15:05
End at: 2018-01-26 20:15:35

# Below is generated by plot.py at 2018-01-26 23:07:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 383.34 Mbit/s
  95th percentile per-packet one-way delay: 56.489 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 176.14 Mbit/s
  95th percentile per-packet one-way delay: 55.784 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 186.22 Mbit/s
  95th percentile per-packet one-way delay: 57.102 ms
  Loss rate: 0.03%
-- Flow 3:
  Average throughput: 177.59 Mbit/s
  95th percentile per-packet one-way delay: 57.159 ms
  Loss rate: 0.01%
Run 9: Statistics of Indigo-2-256

Start at: 2018-01-26 20:29:11
End at: 2018-01-26 20:29:41
Run 9: Report of Indigo-2-256 — Data Link

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

- Flow 1 ingress (mean 67.00 Mbit/s)
- Flow 1 egress (mean 67.92 Mbit/s)
- Flow 2 ingress (mean 73.13 Mbit/s)
- Flow 2 egress (mean 73.27 Mbit/s)
- Flow 3 ingress (mean 81.18 Mbit/s)
- Flow 3 egress (mean 76.11 Mbit/s)

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

- Flow 1 (95th percentile 117.82 ms)
- Flow 2 (95th percentile 115.00 ms)
- Flow 3 (95th percentile 119.31 ms)
Run 10: Statistics of Indigo-2-256

Start at: 2018-01-26 20:43:15
End at: 2018-01-26 20:43:45
Run 10: Report of Indigo-2-256 — Data Link

Throughput (Mbit/s)

Flow 1 ingress (mean 176.67 Mbit/s)
Flow 1 egress (mean 176.73 Mbit/s)
Flow 2 ingress (mean 172.96 Mbit/s)
Flow 2 egress (mean 172.96 Mbit/s)
Flow 3 ingress (mean 174.08 Mbit/s)
Flow 3 egress (mean 174.07 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 55.79 ms)
Flow 2 (95th percentile 55.33 ms)
Flow 3 (95th percentile 56.27 ms)
Run 1: Statistics of Indigo-1-32

Start at: 2018-01-26 18:36:43
End at: 2018-01-26 18:37:13

# Below is generated by plot.py at 2018-01-26 23:09:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.14 Mbit/s
95th percentile per-packet one-way delay: 62.266 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.68 Mbit/s
95th percentile per-packet one-way delay: 62.042 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.89 Mbit/s
95th percentile per-packet one-way delay: 61.739 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 188.08 Mbit/s
95th percentile per-packet one-way delay: 63.165 ms
Loss rate: 0.00%
Run 1: Report of Indigo-1-32 — Data Link
Run 2: Statistics of Indigo-1-32

Start at: 2018-01-26 18:50:33
End at: 2018-01-26 18:51:03

# Below is generated by plot.py at 2018-01-26 23:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.61 Mbit/s
95th percentile per-packet one-way delay: 53.516 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.08 Mbit/s
95th percentile per-packet one-way delay: 53.525 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 221.40 Mbit/s
95th percentile per-packet one-way delay: 53.665 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 168.82 Mbit/s
95th percentile per-packet one-way delay: 52.812 ms
Loss rate: 0.00%
Run 2: Report of Indigo-1-32 — Data Link
Run 3: Statistics of Indigo-1-32

Start at: 2018-01-26 19:04:50
End at: 2018-01-26 19:05:20

# Below is generated by plot.py at 2018-01-26 23:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 422.00 Mbit/s
95th percentile per-packet one-way delay: 54.773 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 218.96 Mbit/s
95th percentile per-packet one-way delay: 54.057 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 225.52 Mbit/s
95th percentile per-packet one-way delay: 55.486 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 166.18 Mbit/s
95th percentile per-packet one-way delay: 56.129 ms
Loss rate: 0.03%
Run 3: Report of Indigo-1-32 — Data Link
Run 4: Statistics of Indigo-1-32

Start at: 2018-01-26 19:19:05
End at: 2018-01-26 19:19:35

# Below is generated by plot.py at 2018-01-26 23:11:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 406.55 Mbit/s
95th percentile per-packet one-way delay: 57.534 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.26 Mbit/s
95th percentile per-packet one-way delay: 55.743 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.86 Mbit/s
95th percentile per-packet one-way delay: 58.850 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 199.70 Mbit/s
95th percentile per-packet one-way delay: 58.656 ms
Loss rate: 0.00%
Run 4: Report of Indigo-1-32 — Data Link

**Graph 1:**
- X-axis: Time (s)
- Y-axis: Throughput (Mbit/s)
- Lines represent:
  - Flow 1 Ingress (mean 212.24 Mbit/s)
  - Flow 1 Egress (mean 212.26 Mbit/s)
  - Flow 2 Ingress (mean 194.85 Mbit/s)
  - Flow 2 Egress (mean 194.86 Mbit/s)
  - Flow 3 Ingress (mean 199.68 Mbit/s)
  - Flow 3 Egress (mean 199.70 Mbit/s)

**Graph 2:**
- X-axis: Time (s)
- Y-axis: Per-packet one-way delay (ms)
- Symbols represent:
  - Flow 1 (95th percentile 55.74 ms)
  - Flow 2 (95th percentile 58.85 ms)
  - Flow 3 (95th percentile 58.66 ms)
Run 5: Statistics of Indigo-1-32

Start at: 2018-01-26 19:33:18
End at: 2018-01-26 19:33:48

# Below is generated by plot.py at 2018-01-26 23:12:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.97 Mbit/s
95th percentile per-packet one-way delay: 54.805 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 210.95 Mbit/s
95th percentile per-packet one-way delay: 54.024 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 198.39 Mbit/s
95th percentile per-packet one-way delay: 55.171 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 184.06 Mbit/s
95th percentile per-packet one-way delay: 55.739 ms
Loss rate: 0.01%
Run 5: Report of Indigo-1-32 — Data Link
Run 6: Statistics of Indigo-1-32

Start at: 2018-01-26 19:47:19
End at: 2018-01-26 19:47:49

# Below is generated by plot.py at 2018-01-26 23:13:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 423.75 Mbit/s
95th percentile per-packet one-way delay: 58.823 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 213.37 Mbit/s
95th percentile per-packet one-way delay: 56.475 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 229.96 Mbit/s
95th percentile per-packet one-way delay: 62.392 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 178.95 Mbit/s
95th percentile per-packet one-way delay: 60.616 ms
Loss rate: 0.00%
Run 6: Report of Indigo-1-32 — Data Link
Run 7: Statistics of Indigo-1-32

Start at: 2018-01-26 20:01:33
End at: 2018-01-26 20:02:03

# Below is generated by plot.py at 2018-01-26 23:13:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 401.31 Mbit/s
  95th percentile per-packet one-way delay: 57.199 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 213.85 Mbit/s
  95th percentile per-packet one-way delay: 56.530 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 194.67 Mbit/s
  95th percentile per-packet one-way delay: 57.475 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 179.99 Mbit/s
  95th percentile per-packet one-way delay: 57.883 ms
  Loss rate: 0.01%
Run 7: Report of Indigo-1-32 — Data Link

![Graph of data link throughput and per-packet one-way delay](image-url)
Run 8: Statistics of Indigo-1-32

Start at: 2018-01-26 20:16:08
End at: 2018-01-26 20:16:38

# Below is generated by plot.py at 2018-01-26 23:14:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 378.56 Mbit/s
  95th percentile per-packet one-way delay: 53.488 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 193.39 Mbit/s
  95th percentile per-packet one-way delay: 53.560 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 195.80 Mbit/s
  95th percentile per-packet one-way delay: 53.399 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 170.68 Mbit/s
  95th percentile per-packet one-way delay: 53.507 ms
  Loss rate: 0.00%
Run 9: Statistics of Indigo-1-32

Start at: 2018-01-26 20:29:51
End at: 2018-01-26 20:30:21

# Below is generated by plot.py at 2018-01-26 23:16:40
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 416.54 Mbit/s
   95th percentile per-packet one-way delay: 58.837 ms
   Loss rate: 0.00%
   -- Flow 1:
      Average throughput: 226.80 Mbit/s
      95th percentile per-packet one-way delay: 58.383 ms
      Loss rate: 0.00%
      -- Flow 2:
      Average throughput: 201.56 Mbit/s
      95th percentile per-packet one-way delay: 58.916 ms
      Loss rate: 0.00%
      -- Flow 3:
      Average throughput: 172.99 Mbit/s
      95th percentile per-packet one-way delay: 59.633 ms
      Loss rate: 0.00%
Run 9: Report of Indigo-1-32 — Data Link

![Graph of data link throughput](image1)

![Graph of packet round-trip delay](image2)
Run 10: Statistics of Indigo-1-32

Start at: 2018-01-26 20:44:06
End at: 2018-01-26 20:44:36

# Below is generated by plot.py at 2018-01-26 23:17:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 417.63 Mbit/s
  95th percentile per-packet one-way delay: 56.157 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 227.09 Mbit/s
  95th percentile per-packet one-way delay: 55.718 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 199.99 Mbit/s
  95th percentile per-packet one-way delay: 56.281 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 178.01 Mbit/s
  95th percentile per-packet one-way delay: 56.798 ms
  Loss rate: 0.00%
Run 10: Report of Indigo-1-32 — Data Link

![Graph showing throughput and packet per second over time for different flows.]

**Throughput (Mbit/s)**

- **Flow 1 ingress** (mean 227.08 Mbit/s)
- **Flow 1 egress** (mean 227.09 Mbit/s)
- **Flow 2 ingress** (mean 199.99 Mbit/s)
- **Flow 2 egress** (mean 199.99 Mbit/s)
- **Flow 3 ingress** (mean 177.94 Mbit/s)
- **Flow 3 egress** (mean 178.01 Mbit/s)

**Per packet error rate delay (ms)**

- **Flow 1** (95th percentile 55.72 ms)
- **Flow 2** (95th percentile 56.28 ms)
- **Flow 3** (95th percentile 56.80 ms)
Run 1: Statistics of Indigo-1-128

Start at: 2018-01-26 18:32:50
End at: 2018-01-26 18:33:20

# Below is generated by plot.py at 2018-01-26 23:18:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 395.56 Mbit/s
  95th percentile per-packet one-way delay: 52.785 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 207.85 Mbit/s
  95th percentile per-packet one-way delay: 52.240 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 197.08 Mbit/s
  95th percentile per-packet one-way delay: 52.929 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 176.70 Mbit/s
  95th percentile per-packet one-way delay: 53.811 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-1-128 — Data Link

[Graph showing throughput and packet loss over time]

Throughout (Mbit/s)

Time (s)

Flow 1 ingress (mean 207.85 Mbit/s)  Flow 1 egress (mean 207.85 Mbit/s)
Flow 2 ingress (mean 197.08 Mbit/s)  Flow 2 egress (mean 197.08 Mbit/s)
Flow 3 ingress (mean 176.71 Mbit/s)  Flow 3 egress (mean 176.70 Mbit/s)

[Graph showing packet loss over time]

Per-packet round-trip delay (ms)

Time (s)

Flow 1 (95th percentile 52.24 ms)  Flow 2 (95th percentile 52.93 ms)  Flow 3 (95th percentile 53.81 ms)
Run 2: Statistics of Indigo-1-128

Start at: 2018-01-26 18:47:00
End at: 2018-01-26 18:47:30

# Below is generated by plot.py at 2018-01-26 23:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.01 Mbit/s
95th percentile per-packet one-way delay: 54.066 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 201.78 Mbit/s
95th percentile per-packet one-way delay: 53.691 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 215.77 Mbit/s
95th percentile per-packet one-way delay: 54.507 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 176.52 Mbit/s
95th percentile per-packet one-way delay: 54.649 ms
Loss rate: 0.00%
Run 3: Statistics of Indigo-1-128

Start at: 2018-01-26 19:00:57
End at: 2018-01-26 19:01:27

# Below is generated by plot.py at 2018-01-26 23:18:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.40 Mbit/s
95th percentile per-packet one-way delay: 54.417 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.46 Mbit/s
95th percentile per-packet one-way delay: 54.184 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 208.11 Mbit/s
95th percentile per-packet one-way delay: 54.616 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.33 Mbit/s
95th percentile per-packet one-way delay: 54.806 ms
Loss rate: 0.00%
Run 3: Report of Indigo-1-128 — Data Link

```
Flow 1 ingress (mean 209.46 Mbit/s)  Flow 1 egress (mean 209.46 Mbit/s)
Flow 2 ingress (mean 208.07 Mbit/s)  Flow 2 egress (mean 208.11 Mbit/s)
Flow 3 ingress (mean 175.33 Mbit/s)  Flow 3 egress (mean 175.33 Mbit/s)
```

```
Flow 1 (95th percentile 54.18 ms)  Flow 2 (95th percentile 54.62 ms)  Flow 3 (95th percentile 54.81 ms)
```
Run 4: Statistics of Indigo-1-128

Start at: 2018-01-26 19:15:34
End at: 2018-01-26 19:16:04

# Below is generated by plot.py at 2018-01-26 23:19:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 422.50 Mbit/s
  95th percentile per-packet one-way delay: 52.670 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 231.06 Mbit/s
  95th percentile per-packet one-way delay: 52.148 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 201.96 Mbit/s
  95th percentile per-packet one-way delay: 52.989 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 177.08 Mbit/s
  95th percentile per-packet one-way delay: 53.154 ms
  Loss rate: 0.00%
Run 4: Report of Indigo-1-128 — Data Link

![Graph of Throughput and Per-packet One-Way Delay](image-url)

- Flow 1 ingress (mean 231.07 Mbit/s)
- Flow 1 egress (mean 231.06 Mbit/s)
- Flow 2 ingress (mean 201.97 Mbit/s)
- Flow 2 egress (mean 201.96 Mbit/s)
- Flow 3 ingress (mean 177.15 Mbit/s)
- Flow 3 egress (mean 177.08 Mbit/s)
Run 5: Statistics of Indigo-1-128

Start at: 2018-01-26 19:29:24
End at: 2018-01-26 19:29:54

# Below is generated by plot.py at 2018-01-26 23:19:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 412.07 Mbit/s
  95th percentile per-packet one-way delay: 52.290 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 217.49 Mbit/s
  95th percentile per-packet one-way delay: 51.904 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 206.84 Mbit/s
  95th percentile per-packet one-way delay: 52.449 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 176.21 Mbit/s
  95th percentile per-packet one-way delay: 52.661 ms
  Loss rate: 0.00%
Run 5: Report of Indigo-1-128 — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.]

- Flow 1 ingress (mean 217.47 Mbit/s)
- Flow 1 egress (mean 217.49 Mbit/s)
- Flow 2 ingress (mean 206.84 Mbit/s)
- Flow 2 egress (mean 206.84 Mbit/s)
- Flow 3 ingress (mean 176.23 Mbit/s)
- Flow 3 egress (mean 176.21 Mbit/s)
Run 6: Statistics of Indigo-1-128

Start at: 2018-01-26 19:43:49
End at: 2018-01-26 19:44:19

# Below is generated by plot.py at 2018-01-26 23:20:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.66 Mbit/s
95th percentile per-packet one-way delay: 52.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 206.76 Mbit/s
95th percentile per-packet one-way delay: 51.940 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.01 Mbit/s
95th percentile per-packet one-way delay: 52.317 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 180.22 Mbit/s
95th percentile per-packet one-way delay: 52.583 ms
Loss rate: 0.00%
Run 6: Report of Indigo-1-128 — Data Link
Run 7: Statistics of Indigo-1-128

Start at: 2018-01-26 19:57:48
End at: 2018-01-26 19:58:18

# Below is generated by plot.py at 2018-01-26 23:21:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 438.14 Mbit/s
  95th percentile per-packet one-way delay: 55.150 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 233.02 Mbit/s
  95th percentile per-packet one-way delay: 54.425 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 221.84 Mbit/s
  95th percentile per-packet one-way delay: 56.221 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 181.35 Mbit/s
  95th percentile per-packet one-way delay: 56.666 ms
  Loss rate: 0.00%
Run 7: Report of Indigo-1-128 — Data Link

![Graph of Throughput](image1)

![Graph of Per-packet end-to-end delay](image2)
Run 8: Statistics of Indigo-1-128

Start at: 2018-01-26 20:12:15
End at: 2018-01-26 20:12:45

# Below is generated by plot.py at 2018-01-26 23:21:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 430.16 Mbit/s
  95th percentile per-packet one-way delay: 57.900 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 228.54 Mbit/s
  95th percentile per-packet one-way delay: 56.360 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 216.59 Mbit/s
  95th percentile per-packet one-way delay: 58.735 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 181.63 Mbit/s
  95th percentile per-packet one-way delay: 60.827 ms
  Loss rate: 0.00%
Run 8: Report of Indigo-1-128 — Data Link

![Graph showing throughput and packet round-trip delay over time for different flows.]

- **Throughput**
  - Flow 1 ingress (mean 228.54 Mbit/s)
  - Flow 1 egress (mean 228.54 Mbit/s)
  - Flow 2 ingress (mean 216.53 Mbit/s)
  - Flow 2 egress (mean 216.59 Mbit/s)
  - Flow 3 ingress (mean 181.62 Mbit/s)
  - Flow 3 egress (mean 181.63 Mbit/s)

- **Packet Round-Trip Delay**
  - Flow 1 (95th percentile 56.36 ms)
  - Flow 2 (95th percentile 58.73 ms)
  - Flow 3 (95th percentile 60.83 ms)
Run 9: Statistics of Indigo-1-128

Start at: 2018-01-26 20:26:22
End at: 2018-01-26 20:26:52

# Below is generated by plot.py at 2018-01-26 23:21:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.66 Mbit/s
95th percentile per-packet one-way delay: 54.601 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 197.42 Mbit/s
95th percentile per-packet one-way delay: 54.370 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.79 Mbit/s
95th percentile per-packet one-way delay: 55.256 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 174.41 Mbit/s
95th percentile per-packet one-way delay: 52.319 ms
Loss rate: 0.00%
Run 9: Report of Indigo-1-128 — Data Link

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

- Flow 1 ingress (mean 197.42 Mbit/s)
- Flow 1 egress (mean 197.42 Mbit/s)
- Flow 2 ingress (mean 212.72 Mbit/s)
- Flow 2 egress (mean 212.79 Mbit/s)
- Flow 3 ingress (mean 174.43 Mbit/s)
- Flow 3 egress (mean 174.41 Mbit/s)

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

- Flow 1 (95th percentile 54.37 ms)
- Flow 2 (95th percentile 55.26 ms)
- Flow 3 (95th percentile 52.32 ms)
Run 10: Statistics of Indigo-1-128

Start at: 2018-01-26 20:40:24
End at: 2018-01-26 20:40:54

# Below is generated by plot.py at 2018-01-26 23:21:59
# Datalink statistics
  -- Total of 3 flows:
  Average throughput: 443.54 Mbit/s
  95th percentile per-packet one-way delay: 53.751 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 239.19 Mbit/s
  95th percentile per-packet one-way delay: 53.648 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 217.70 Mbit/s
  95th percentile per-packet one-way delay: 54.726 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 184.46 Mbit/s
  95th percentile per-packet one-way delay: 53.733 ms
  Loss rate: 0.00%
Run 10: Report of Indigo-1-128 — Data Link