Pantheon Report

Data path: GCE Tokyo Ethernet (remote) \(\rightarrow\) GCE Iowa Ethernet (local).
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 @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4e4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0edcbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ 1f0f2e693303ae82ea808e6928eac4f1083a6681
M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaaab4a906ce6bb7c3f3f
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcff93
third_party/pcc @ 1af6c958fa0d66d18b623c091a55f3c872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ec9f78f3c42f42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bfe749737437f61b1aeaeb30b267cde681
third_party/sprout @ 6f2e6e6e088d91066a9f023df375e3e26650985
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutcomm.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562539f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 423cbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197edd041ace68a42849b254ad834825f42
test from GCE Tokyo Ethernet to GCE Iowa 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>172.21</td>
<td>170.32</td>
<td>163.46</td>
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<td>TCP Cubic</td>
<td>10</td>
<td>105.63</td>
<td>123.47</td>
<td>90.84</td>
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<td>LEDBAT</td>
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<td>7.74</td>
<td>9.17</td>
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<td>513.53</td>
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<td>N/A</td>
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<td>1.40</td>
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<td>Sprout</td>
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<td>178.33</td>
<td>133.78</td>
<td>180.46</td>
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<td>55.09</td>
<td>64.49</td>
<td>62.01</td>
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<td>Verus</td>
<td>10</td>
<td>178.50</td>
<td>132.85</td>
<td>111.09</td>
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<td>Copa</td>
<td>10</td>
<td>76.60</td>
<td>67.81</td>
<td>67.87</td>
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<tr>
<td>Indigo-2-256</td>
<td>10</td>
<td>174.33</td>
<td>163.68</td>
<td>144.17</td>
</tr>
<tr>
<td>Indigo-1-32</td>
<td>10</td>
<td>190.84</td>
<td>172.54</td>
<td>145.64</td>
</tr>
<tr>
<td>Indigo-1-128</td>
<td>10</td>
<td>190.67</td>
<td>171.60</td>
<td>147.75</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-01-26 23:36:15
End at: 2018-01-26 23:36:45

# Below is generated by plot.py at 2018-01-27 04:41:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 331.85 Mbit/s
  95th percentile per-packet one-way delay: 67.501 ms
  Loss rate: 0.71%
-- Flow 1:
  Average throughput: 169.19 Mbit/s
  95th percentile per-packet one-way delay: 66.800 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 165.75 Mbit/s
  95th percentile per-packet one-way delay: 67.451 ms
  Loss rate: 0.71%
-- Flow 3:
  Average throughput: 159.69 Mbit/s
  95th percentile per-packet one-way delay: 68.714 ms
  Loss rate: 1.43%
Run 1: Report of TCP BBR — Data Link

![Graph showing throughput and packet loss across three flows over time.]

- **Throughput (Mbps) vs. Time (s)**
  - Flow 1 Ingress (mean 169.27 Mbps)
  - Flow 1 Egress (mean 169.19 Mbps)
  - Flow 2 Ingress (mean 165.87 Mbps)
  - Flow 2 Egress (mean 165.75 Mbps)
  - Flow 3 Ingress (mean 159.95 Mbps)
  - Flow 3 Egress (mean 159.69 Mbps)

- **Per-packet one-way delay (ms) vs. Time (s)**
  - Flow 1 (95th percentile 66.80 ms)
  - Flow 2 (95th percentile 67.45 ms)
  - Flow 3 (95th percentile 68.71 ms)
Run 2: Statistics of TCP BBR

Start at: 2018-01-26 23:51:00
End at: 2018-01-26 23:51:30

# Below is generated by plot.py at 2018-01-27 04:41:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 341.64 Mbit/s
  95th percentile per-packet one-way delay: 65.772 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 174.09 Mbit/s
  95th percentile per-packet one-way delay: 66.055 ms
  Loss rate: 0.45%
-- Flow 2:
  Average throughput: 172.44 Mbit/s
  95th percentile per-packet one-way delay: 65.131 ms
  Loss rate: 0.70%
-- Flow 3:
  Average throughput: 161.22 Mbit/s
  95th percentile per-packet one-way delay: 66.135 ms
  Loss rate: 1.43%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Start at: 2018-01-27 00:05:31
End at: 2018-01-27 00:06:01

# Below is generated by plot.py at 2018-01-27 04:41:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 337.73 Mbit/s
  95th percentile per-packet one-way delay: 70.101 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 172.52 Mbit/s
  95th percentile per-packet one-way delay: 67.870 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 167.82 Mbit/s
  95th percentile per-packet one-way delay: 69.466 ms
  Loss rate: 0.68%
-- Flow 3:
  Average throughput: 163.52 Mbit/s
  95th percentile per-packet one-way delay: 72.968 ms
  Loss rate: 1.39%
Run 3: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 172.56 Mbit/s)
- Flow 1 egress (mean 172.52 Mbit/s)
- Flow 2 ingress (mean 167.89 Mbit/s)
- Flow 2 egress (mean 167.82 Mbit/s)
- Flow 3 ingress (mean 163.71 Mbit/s)
- Flow 3 egress (mean 163.52 Mbit/s)
Run 4: Statistics of TCP BBR

Start at: 2018-01-27 00:20:12
End at: 2018-01-27 00:20:42

# Below is generated by plot.py at 2018-01-27 04:41:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.64 Mbit/s
95th percentile per-packet one-way delay: 65.979 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 170.50 Mbit/s
95th percentile per-packet one-way delay: 64.954 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 173.94 Mbit/s
95th percentile per-packet one-way delay: 65.913 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 166.01 Mbit/s
95th percentile per-packet one-way delay: 68.019 ms
Loss rate: 1.48%
Run 4: Report of TCP BBR — Data Link

![Graph of Throughput and Packet Delay]

- **Throughput**:
  - Flow 1 ingress (mean 170.62 Mbit/s)
  - Flow 1 egress (mean 170.50 Mbit/s)
  - Flow 2 ingress (mean 174.03 Mbit/s)
  - Flow 2 egress (mean 173.94 Mbit/s)
  - Flow 3 ingress (mean 166.32 Mbit/s)
  - Flow 3 egress (mean 166.01 Mbit/s)

- **Packet Delay**:
  - Flow 1 (95th percentile 64.95 ms)
  - Flow 2 (95th percentile 65.91 ms)
  - Flow 3 (95th percentile 68.02 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-01-27 00:34:59
End at: 2018-01-27 00:35:29

# Below is generated by plot.py at 2018-01-27 04:41:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 340.98 Mbit/s
  95th percentile per-packet one-way delay: 67.994 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 172.58 Mbit/s
  95th percentile per-packet one-way delay: 66.624 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 173.59 Mbit/s
  95th percentile per-packet one-way delay: 68.231 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 161.34 Mbit/s
  95th percentile per-packet one-way delay: 69.459 ms
  Loss rate: 1.40%
Run 5: Report of TCP BBR — Data Link
Run 6: Statistics of TCP BBR

Start at: 2018-01-27 00:49:47
End at: 2018-01-27 00:50:17

# Below is generated by plot.py at 2018-01-27 04:41:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.76 Mbit/s
95th percentile per-packet one-way delay: 69.109 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 174.12 Mbit/s
95th percentile per-packet one-way delay: 68.008 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 170.99 Mbit/s
95th percentile per-packet one-way delay: 68.741 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 164.18 Mbit/s
95th percentile per-packet one-way delay: 71.316 ms
Loss rate: 1.41%
Run 6: Report of TCP BBR — Data Link

[Graph showing throughput and per-packet one-way delay for three flows over time]
Run 7: Statistics of TCP BBR

Start at: 2018-01-27 01:04:40
End at: 2018-01-27 01:05:10

# Below is generated by plot.py at 2018-01-27 04:41:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 331.50 Mbit/s
  95th percentile per-packet one-way delay: 69.781 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 169.47 Mbit/s
  95th percentile per-packet one-way delay: 68.499 ms
  Loss rate: 0.44%
-- Flow 2:
  Average throughput: 167.62 Mbit/s
  95th percentile per-packet one-way delay: 69.317 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 153.95 Mbit/s
  95th percentile per-packet one-way delay: 72.029 ms
  Loss rate: 1.55%
Run 7: Report of TCP BBR — Data Link
Run 8: Statistics of TCP BBR

Start at: 2018-01-27 01:19:01  
End at: 2018-01-27 01:19:31

# Below is generated by plot.py at 2018-01-27 04:41:18  
# Datalink statistics
-- Total of 3 flows:  
Average throughput: 343.76 Mbit/s  
95th percentile per-packet one-way delay: 68.014 ms  
Loss rate: 0.45%  
-- Flow 1:  
Average throughput: 173.97 Mbit/s  
95th percentile per-packet one-way delay: 66.249 ms  
Loss rate: 0.45%  
-- Flow 2:  
Average throughput: 173.20 Mbit/s  
95th percentile per-packet one-way delay: 66.824 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 166.35 Mbit/s  
95th percentile per-packet one-way delay: 71.810 ms  
Loss rate: 1.39%
Run 8: Report of TCP BBR — Data Link

![Graph showing throughput and packet delay over time]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 174.02 Mbps)
  - Flow 1 egress (mean 173.07 Mbps)
  - Flow 2 ingress (mean 172.11 Mbps)
  - Flow 2 egress (mean 173.20 Mbps)
  - Flow 3 ingress (mean 166.54 Mbps)
  - Flow 3 egress (mean 166.35 Mbps)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 66.25 ms)
  - Flow 2 (95th percentile 66.82 ms)
  - Flow 3 (95th percentile 71.81 ms)
Run 9: Statistics of TCP BBR

Start at: 2018-01-27 01:33:40
End at: 2018-01-27 01:34:10

# Below is generated by plot.py at 2018-01-27 04:47:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 342.00 Mbit/s
  95th percentile per-packet one-way delay: 69.025 ms
  Loss rate: 0.66%
-- Flow 1:
  Average throughput: 173.84 Mbit/s
  95th percentile per-packet one-way delay: 66.400 ms
  Loss rate: 0.42%
-- Flow 2:
  Average throughput: 170.62 Mbit/s
  95th percentile per-packet one-way delay: 67.778 ms
  Loss rate: 0.64%
-- Flow 3:
  Average throughput: 166.51 Mbit/s
  95th percentile per-packet one-way delay: 72.509 ms
  Loss rate: 1.44%
Run 9: Report of TCP BBR — Data Link
Run 10: Statistics of TCP BBR

Start at: 2018-01-27 01:48:32
End at: 2018-01-27 01:49:02

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 339.33 Mbit/s
  95th percentile per-packet one-way delay: 73.826 ms
  Loss rate: 0.72%
-- Flow 1:
  Average throughput: 171.84 Mbit/s
  95th percentile per-packet one-way delay: 73.219 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 167.22 Mbit/s
  95th percentile per-packet one-way delay: 73.486 ms
  Loss rate: 0.72%
-- Flow 3:
  Average throughput: 171.83 Mbit/s
  95th percentile per-packet one-way delay: 74.610 ms
  Loss rate: 1.43%
Run 10: Report of TCP BBR — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 171.93 Mbps)
  - Flow 1 egress (mean 171.84 Mbps)
  - Flow 2 ingress (mean 167.28 Mbps)
  - Flow 2 egress (mean 167.22 Mbps)
  - Flow 3 ingress (mean 172.23 Mbps)
  - Flow 3 egress (mean 171.83 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 73.22 ms)
  - Flow 2 (95th percentile 73.49 ms)
  - Flow 3 (95th percentile 74.61 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-01-26 23:37:15
End at: 2018-01-26 23:37:45

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 222.05 Mbit/s
95th percentile per-packet one-way delay: 70.164 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 122.90 Mbit/s
95th percentile per-packet one-way delay: 70.339 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 106.10 Mbit/s
95th percentile per-packet one-way delay: 70.192 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 87.19 Mbit/s
95th percentile per-packet one-way delay: 69.896 ms
Loss rate: 1.48%
Run 1: Report of TCP Cubic — Data Link

Ingress and egress throughput for different flows over time, showing the variability and trends in network performance. The graphs illustrate the throughput and packet delay for three different flows, with mean values provided for each.
Run 2: Statistics of TCP Cubic

Start at: 2018-01-26 23:52:01
End at: 2018-01-26 23:52:31

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.68 Mbit/s
95th percentile per-packet one-way delay: 72.188 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 110.16 Mbit/s
95th percentile per-packet one-way delay: 69.825 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 95.28 Mbit/s
95th percentile per-packet one-way delay: 72.326 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 113.50 Mbit/s
95th percentile per-packet one-way delay: 77.819 ms
Loss rate: 0.94%
Run 2: Report of TCP Cubic — Data Link

The diagrams show the throughput and per-packet one-way delay for three flows over time. The throughput graphs illustrate the mean data transfer rates in Megabits per second (Mbps) for each flow. The per-packet one-way delay graphs display the 95th percentile delays in milliseconds (ms).
Run 3: Statistics of TCP Cubic

Start at: 2018-01-27 00:06:32
End at: 2018-01-27 00:07:02

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.84 Mbit/s
95th percentile per-packet one-way delay: 69.251 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 83.72 Mbit/s
95th percentile per-packet one-way delay: 68.044 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 67.25 Mbit/s
95th percentile per-packet one-way delay: 66.645 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 153.41 Mbit/s
95th percentile per-packet one-way delay: 69.798 ms
Loss rate: 0.61%
Run 4: Statistics of TCP Cubic

Start at: 2018-01-27 00:21:13
End at: 2018-01-27 00:21:43

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 186.49 Mbit/s
  95th percentile per-packet one-way delay: 73.390 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 88.50 Mbit/s
  95th percentile per-packet one-way delay: 68.742 ms
  Loss rate: 0.86%
-- Flow 2:
  Average throughput: 145.88 Mbit/s
  95th percentile per-packet one-way delay: 76.157 ms
  Loss rate: 0.39%
-- Flow 3:
  Average throughput: 3.36 Mbit/s
  95th percentile per-packet one-way delay: 65.400 ms
  Loss rate: 5.42%
Run 4: Report of TCP Cubic — Data Link

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

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

Legend:
- Flow 1 ingress (mean 88.89 Mb/s)
- Flow 1 egress (mean 88.50 Mb/s)
- Flow 2 ingress (mean 145.53 Mb/s)
- Flow 2 egress (mean 145.88 Mb/s)
- Flow 3 ingress (mean 3.51 Mb/s)
- Flow 3 egress (mean 3.36 Mb/s)
Run 5: Statistics of TCP Cubic

Start at: 2018-01-27 00:35:59
End at: 2018-01-27 00:36:29

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 217.81 Mbit/s
  95th percentile per-packet one-way delay: 73.265 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 91.71 Mbit/s
  95th percentile per-packet one-way delay: 69.925 ms
  Loss rate: 0.49%
-- Flow 2:
  Average throughput: 131.95 Mbit/s
  95th percentile per-packet one-way delay: 72.701 ms
  Loss rate: 0.44%
-- Flow 3:
  Average throughput: 117.16 Mbit/s
  95th percentile per-packet one-way delay: 77.660 ms
  Loss rate: 1.35%
Run 5: Report of TCP Cubic — Data Link

[Graphs showing network performance metrics over time with annotations for flow ingress and egress throughputs and per-packet one-way delay.]
Run 6: Statistics of TCP Cubic

Start at: 2018-01-27 00:50:48
End at: 2018-01-27 00:51:18

# Below is generated by plot.py at 2018-01-27 04:47:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 224.68 Mbit/s
95th percentile per-packet one-way delay: 71.802 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 115.37 Mbit/s
95th percentile per-packet one-way delay: 72.493 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 118.92 Mbit/s
95th percentile per-packet one-way delay: 70.504 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 92.48 Mbit/s
95th percentile per-packet one-way delay: 73.156 ms
Loss rate: 1.35%
Run 6: Report of TCP Cubic — Data Link

![Graph showing throughput and per-packet one-way delay for different flows over time.](image-url)
Run 7: Statistics of TCP Cubic

Start at: 2018-01-27 01:05:39
End at: 2018-01-27 01:06:09

# Below is generated by plot.py at 2018-01-27 04:48:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.41 Mbit/s
95th percentile per-packet one-way delay: 69.440 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 116.76 Mbit/s
95th percentile per-packet one-way delay: 69.829 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 127.33 Mbit/s
95th percentile per-packet one-way delay: 64.031 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 65.741 ms
Loss rate: 1.52%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-01-27 01:20:01
End at: 2018-01-27 01:20:31

# Below is generated by plot.py at 2018-01-27 04:48:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.12 Mbit/s
95th percentile per-packet one-way delay: 72.047 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 128.60 Mbit/s
95th percentile per-packet one-way delay: 72.006 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 108.99 Mbit/s
95th percentile per-packet one-way delay: 72.132 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 88.68 Mbit/s
95th percentile per-packet one-way delay: 72.084 ms
Loss rate: 1.26%
Run 8: Report of TCP Cubic — Data Link
Run 9: Statistics of TCP Cubic

Start at: 2018-01-27 01:34:41
End at: 2018-01-27 01:35:11

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 275.74 Mbit/s
  95th percentile per-packet one-way delay: 72.033 ms
  Loss rate: 0.29%
-- Flow 1:
  Average throughput: 123.33 Mbit/s
  95th percentile per-packet one-way delay: 70.591 ms
  Loss rate: 0.22%
-- Flow 2:
  Average throughput: 149.08 Mbit/s
  95th percentile per-packet one-way delay: 73.072 ms
  Loss rate: 0.33%
-- Flow 3:
  Average throughput: 163.89 Mbit/s
  95th percentile per-packet one-way delay: 72.414 ms
  Loss rate: 0.37%
Run 9: Report of TCP Cubic — Data Link

![Graph showing throughput and packet delay over time]

- Flow 1 ingress (mean 123.06 Mbit/s)
- Flow 1 egress (mean 123.33 Mbit/s)
- Flow 2 ingress (mean 148.65 Mbit/s)
- Flow 2 egress (mean 149.08 Mbit/s)
- Flow 3 ingress (mean 162.41 Mbit/s)
- Flow 3 egress (mean 163.99 Mbit/s)

![Graph showing packet delay over time]

- Flow 1 (95th percentile 70.59 ms)
- Flow 2 (95th percentile 73.07 ms)
- Flow 3 (95th percentile 72.41 ms)
Run 10: Statistics of TCP Cubic

Start at: 2018-01-27 01:49:32
End at: 2018-01-27 01:50:02

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.13 Mbit/s
95th percentile per-packet one-way delay: 69.578 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 75.26 Mbit/s
95th percentile per-packet one-way delay: 66.825 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 183.87 Mbit/s
95th percentile per-packet one-way delay: 69.953 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 64.576 ms
Loss rate: 2.55%
Run 10: Report of TCP Cubic — Data Link

The figure shows two graphs. The upper graph represents the throughput in Mbps over time, with different lines indicating the throughput of different flows: Flow 1 (mean 75.28 Mbps), Flow 2 (mean 183.95 Mbps), and Flow 3 (mean 2.89 Mbps). The lower graph shows the per-packet one-way delay in milliseconds for the same flows: Flow 1 (95th percentile 66.83 ms), Flow 2 (95th percentile 69.95 ms), and Flow 3 (95th percentile 64.58 ms).
Run 1: Statistics of LEDBAT

Start at: 2018-01-26 23:45:20
End at: 2018-01-26 23:45:50

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 14.62 Mbit/s
  95th percentile per-packet one-way delay: 64.179 ms
  Loss rate: 1.00%
  -- Flow 1:
  Average throughput: 6.96 Mbit/s
  95th percentile per-packet one-way delay: 64.416 ms
  Loss rate: 0.82%
  -- Flow 2:
  Average throughput: 8.66 Mbit/s
  95th percentile per-packet one-way delay: 63.961 ms
  Loss rate: 0.91%
  -- Flow 3:
  Average throughput: 5.93 Mbit/s
  95th percentile per-packet one-way delay: 62.919 ms
  Loss rate: 1.94%
Run 1: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 6.99 Mbps)
- Flow 1 egress (mean 6.96 Mbps)
- Flow 2 ingress (mean 6.69 Mbps)
- Flow 2 egress (mean 6.66 Mbps)
- Flow 3 ingress (mean 5.97 Mbps)
- Flow 3 egress (mean 5.93 Mbps)

![Graph 2: Per-packet compliance vs Time](image2.png)

- Flow 1 (95th percentile 64.42 ms)
- Flow 2 (95th percentile 63.96 ms)
- Flow 3 (95th percentile 62.92 ms)
Run 2: Statistics of LEDBAT

Start at: 2018-01-26 23:59:45
End at: 2018-01-27 00:00:15

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.63 Mbit/s
95th percentile per-packet one-way delay: 64.007 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 63.920 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 64.094 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 5.34 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 2.70%
Run 2: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 9.34 Mbit/s)
- Flow 1 egress (mean 9.32 Mbit/s)
- Flow 2 ingress (mean 6.95 Mbit/s)
- Flow 2 egress (mean 6.88 Mbit/s)
- Flow 3 ingress (mean 5.42 Mbit/s)
- Flow 3 egress (mean 5.34 Mbit/s)

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

- Flow 1 (95th percentile 63.92 ms)
- Flow 2 (95th percentile 64.09 ms)
- Flow 3 (95th percentile 64.21 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-01-27 00:14:33
End at: 2018-01-27 00:15:03

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 64.172 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 10.44 Mbit/s
95th percentile per-packet one-way delay: 64.210 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 64.124 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 5.14 Mbit/s
95th percentile per-packet one-way delay: 64.115 ms
Loss rate: 2.92%
Run 3: Report of LEDBAT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 10.51 Mbps)
Flow 1 egress (mean 10.44 Mbps)
Flow 2 ingress (mean 5.08 Mbps)
Flow 2 egress (mean 5.06 Mbps)
Flow 3 ingress (mean 5.22 Mbps)
Flow 3 egress (mean 5.14 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 64.21 ms)
Flow 2 (95th percentile 64.12 ms)
Flow 3 (95th percentile 64.11 ms)
Run 4: Statistics of LEDBAT

Start at: 2018-01-27 00:29:13
End at: 2018-01-27 00:29:43

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.11 Mbit/s
95th percentile per-packet one-way delay: 64.333 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 64.356 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 64.406 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 64.128 ms
Loss rate: 2.74%

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Run 4: Report of LEDBAT — Data Link

![Graph showing throughput and delay over time for different flows.]
Run 5: Statistics of LEDBAT

Start at: 2018-01-27 00:44:08
End at: 2018-01-27 00:44:38

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.87 Mbit/s
  95th percentile per-packet one-way delay: 64.306 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 7.67 Mbit/s
  95th percentile per-packet one-way delay: 64.208 ms
  Loss rate: 1.06%
-- Flow 2:
  Average throughput: 6.57 Mbit/s
  95th percentile per-packet one-way delay: 64.376 ms
  Loss rate: 1.23%
-- Flow 3:
  Average throughput: 5.67 Mbit/s
  95th percentile per-packet one-way delay: 64.488 ms
  Loss rate: 2.90%
Run 5: Report of LEDBAT — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows.
Flow 1 ingress (mean 7.72 Mbit/s), Flow 1 egress (mean 7.67 Mbit/s), Flow 2 ingress (mean 6.61 Mbit/s), Flow 2 egress (mean 6.57 Mbit/s), Flow 3 ingress (mean 5.77 Mbit/s), Flow 3 egress (mean 5.67 Mbit/s).]
Run 6: Statistics of LEDBAT

Start at: 2018-01-27 00:58:53
End at: 2018-01-27 00:59:23

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 64.148 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 64.303 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 63.993 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 62.136 ms
Loss rate: 2.60%
Run 6: Report of LEDBAT — Data Link

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

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.39 Mbps)
Flow 1 egress (mean 6.37 Mbps)
Flow 2 ingress (mean 8.61 Mbps)
Flow 2 egress (mean 8.57 Mbps)
Flow 3 ingress (mean 7.24 Mbps)
Flow 3 egress (mean 7.14 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 64.30 ms)
Flow 2 (95th percentile 63.99 ms)
Flow 3 (95th percentile 62.14 ms)
Run 7: Statistics of LEDBAT

Start at: 2018-01-27 01:13:37
End at: 2018-01-27 01:14:07

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.39 Mbit/s
95th percentile per-packet one-way delay: 63.865 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 64.039 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 62.757 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 62.237 ms
Loss rate: 2.87%
Run 7: Report of LEDBAT — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 5.13 Mbit/s)
- Flow 1 egress (mean 5.11 Mbit/s)
- Flow 2 ingress (mean 11.29 Mbit/s)
- Flow 2 egress (mean 11.27 Mbit/s)
- Flow 3 ingress (mean 5.65 Mbit/s)
- Flow 3 egress (mean 5.56 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 64.04 ms)
- Flow 2 (95th percentile 62.76 ms)
- Flow 3 (95th percentile 62.24 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-01-27 01:28:02
End at: 2018-01-27 01:28:32

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.31 Mbit/s
95th percentile per-packet one-way delay: 64.428 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 7.06 Mbit/s
95th percentile per-packet one-way delay: 64.507 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 10.73 Mbit/s
95th percentile per-packet one-way delay: 64.387 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 64.160 ms
Loss rate: 2.71%
Run 8: Report of LEDBAT — Data Link

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

![Graph 2: Packet Error Rate vs Time](image2)
Run 9: Statistics of LEDBAT

Start at: 2018-01-27 01:42:45
End at: 2018-01-27 01:43:15

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 16.99 Mbit/s
  95th percentile per-packet one-way delay: 62.990 ms
  Loss rate: 1.12%
  -- Flow 1:
  Average throughput: 5.99 Mbit/s
  95th percentile per-packet one-way delay: 63.581 ms
  Loss rate: 0.60%
  -- Flow 2:
  Average throughput: 14.48 Mbit/s
  95th percentile per-packet one-way delay: 62.632 ms
  Loss rate: 1.29%
  -- Flow 3:
  Average throughput: 4.22 Mbit/s
  95th percentile per-packet one-way delay: 62.341 ms
  Loss rate: 2.14%
Run 9: Report of LEDBAT — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 6.00 Mbps)
- Flow 2 ingress (mean 14.58 Mbps)
- Flow 3 ingress (mean 4.26 Mbps)
- Flow 1 egress (mean 5.99 Mbps)
- Flow 2 egress (mean 14.48 Mbps)
- Flow 3 egress (mean 4.22 Mbps)

Packet per second:

- Flow 1 (95th percentile 63.58 ms)
- Flow 2 (95th percentile 62.63 ms)
- Flow 3 (95th percentile 62.34 ms)
Run 10: Statistics of LEDBAT

Start at: 2018-01-27 01:57:33
End at: 2018-01-27 01:58:03

# Below is generated by plot.py at 2018-01-27 04:49:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 20.08 Mbit/s
  95th percentile per-packet one-way delay: 64.134 ms
  Loss rate: 0.77%
-- Flow 1:
  Average throughput: 11.36 Mbit/s
  95th percentile per-packet one-way delay: 64.084 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 10.13 Mbit/s
  95th percentile per-packet one-way delay: 64.189 ms
  Loss rate: 0.79%
-- Flow 3:
  Average throughput: 6.10 Mbit/s
  95th percentile per-packet one-way delay: 64.203 ms
  Loss rate: 2.02%
Run 10: Report of LEDBAT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 11.38 Mbps)
Flow 1 egress (mean 11.36 Mbps)
Flow 2 ingress (mean 10.15 Mbps)
Flow 2 egress (mean 10.13 Mbps)
Flow 3 ingress (mean 6.14 Mbps)
Flow 3 egress (mean 6.10 Mbps)

Per packet one way delay [ms]

Time (s)

Flow 1 (95th percentile 64.00 ms)
Flow 2 (95th percentile 64.19 ms)
Flow 3 (95th percentile 64.20 ms)
Run 1: Statistics of PCC

Start at: 2018-01-26 23:43:09
End at: 2018-01-26 23:43:39

# Below is generated by plot.py at 2018-01-27 04:56:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 568.28 Mbit/s
95th percentile per-packet one-way delay: 177.314 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 541.43 Mbit/s
95th percentile per-packet one-way delay: 177.379 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 32.59 Mbit/s
95th percentile per-packet one-way delay: 175.561 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 16.03 Mbit/s
95th percentile per-packet one-way delay: 177.698 ms
Loss rate: 1.54%
Run 1: Report of PCC — Data Link
Run 2: Statistics of PCC

End at: 2018-01-26 23:58:25
Run 2: Report of PCC — Data Link
Run 3: Statistics of PCC

Start at: 2018-01-27 00:12:22
End at: 2018-01-27 00:12:52

# Below is generated by plot.py at 2018-01-27 04:57:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 566.26 Mbit/s
95th percentile per-packet one-way delay: 186.967 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 533.90 Mbit/s
95th percentile per-packet one-way delay: 187.111 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 33.51 Mbit/s
95th percentile per-packet one-way delay: 185.699 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 31.05 Mbit/s
95th percentile per-packet one-way delay: 186.244 ms
Loss rate: 3.01%
Run 3: Report of PCC — Data Link
Run 4: Statistics of PCC

Start at: 2018-01-27 00:27:05
End at: 2018-01-27 00:27:35

# Below is generated by plot.py at 2018-01-27 04:57:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 568.04 Mbit/s
95th percentile per-packet one-way delay: 181.541 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 522.01 Mbit/s
95th percentile per-packet one-way delay: 182.648 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 67.34 Mbit/s
95th percentile per-packet one-way delay: 178.573 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 143.047 ms
Loss rate: 1.29%
Run 4: Report of PCC — Data Link

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

Throughput (Mbit/s) vs. Time (s)

Flow 1 ingress (mean 530.74 Mbit/s)
Flow 1 egress (mean 522.01 Mbit/s)
Flow 2 ingress (mean 68.29 Mbit/s)
Flow 2 egress (mean 67.34 Mbit/s)
Flow 3 ingress (mean 4.47 Mbit/s)
Flow 3 egress (mean 4.46 Mbit/s)

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

Flow 1 (95th percentile 182.65 ms)
Flow 2 (95th percentile 178.57 ms)
Flow 3 (95th percentile 142.05 ms)
Run 5: Statistics of PCC

Start at: 2018-01-27 00:42:00
End at: 2018-01-27 00:42:30

# Below is generated by plot.py at 2018-01-27 04:58:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 542.98 Mbit/s
95th percentile per-packet one-way delay: 187.224 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 464.34 Mbit/s
95th percentile per-packet one-way delay: 189.975 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 87.83 Mbit/s
95th percentile per-packet one-way delay: 179.233 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 62.68 Mbit/s
95th percentile per-packet one-way delay: 175.475 ms
Loss rate: 1.68%
Run 5: Report of PCC — Data Link

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

![Graph 2: Delay vs Time](image2.png)
Run 6: Statistics of PCC

Start at: 2018-01-27 00:56:48
End at: 2018-01-27 00:57:18

# Below is generated by plot.py at 2018-01-27 04:58:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 565.77 Mbit/s
95th percentile per-packet one-way delay: 162.766 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 511.35 Mbit/s
95th percentile per-packet one-way delay: 164.162 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 66.30 Mbit/s
95th percentile per-packet one-way delay: 152.893 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 134.802 ms
Loss rate: 1.60%
Run 6: Report of PCC — Data Link

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

Throughput (Mbit/s):
- Flow 1 ingress (mean 514.58 Mbit/s)
- Flow 2 ingress (mean 66.34 Mbit/s)
- Flow 3 ingress (mean 32.18 Mbit/s)
- Flow 1 egress (mean 511.35 Mbit/s)
- Flow 2 egress (mean 66.30 Mbit/s)
- Flow 3 egress (mean 32.08 Mbit/s)

Per-packet one-way delay (ms):
- Flow 1 (95th percentile 164.16 ms)
- Flow 2 (95th percentile 152.89 ms)
- Flow 3 (95th percentile 134.80 ms)
Run 7: Statistics of PCC

Start at: 2018-01-27 01:11:29
End at: 2018-01-27 01:11:59

# Below is generated by plot.py at 2018-01-27 04:58:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 549.30 Mbit/s
  95th percentile per-packet one-way delay: 183.493 ms
  Loss rate: 3.42%
-- Flow 1:
  Average throughput: 471.39 Mbit/s
  95th percentile per-packet one-way delay: 183.554 ms
  Loss rate: 3.33%
-- Flow 2:
  Average throughput: 116.22 Mbit/s
  95th percentile per-packet one-way delay: 183.318 ms
  Loss rate: 3.96%
-- Flow 3:
  Average throughput: 2.56 Mbit/s
  95th percentile per-packet one-way delay: 177.302 ms
  Loss rate: 1.92%
Run 7: Report of PCC — Data Link

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

- Flow 1 Ingress (mean 485.57 Mbps/s)
- Flow 1 Egress (mean 471.39 Mbps/s)
- Flow 2 Ingress (mean 120.23 Mbps/s)
- Flow 2 Egress (mean 116.22 Mbps/s)
- Flow 3 Ingress (mean 2.57 Mbps/s)
- Flow 3 Egress (mean 2.56 Mbps/s)

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

- Flow 1 (95th percentile 183.55 ms)
- Flow 2 (95th percentile 183.32 ms)
- Flow 3 (95th percentile 177.30 ms)
Run 8: Statistics of PCC

Start at: 2018-01-27 01:26:06
End at: 2018-01-27 01:26:36

# Below is generated by plot.py at 2018-01-27 04:59:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 558.23 Mbit/s
95th percentile per-packet one-way delay: 181.416 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 534.67 Mbit/s
95th percentile per-packet one-way delay: 181.417 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 33.60 Mbit/s
95th percentile per-packet one-way delay: 181.359 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 181.681 ms
Loss rate: 3.80%
Run 8: Report of PCC — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 541.35 Mb/s)
Flow 1 egress (mean 534.67 Mb/s)
Flow 2 ingress (mean 33.93 Mb/s)
Flow 2 egress (mean 33.60 Mb/s)
Flow 3 ingress (mean 4.18 Mb/s)
Flow 3 egress (mean 4.07 Mb/s)

Packet loss, mean delay (ms)

Time (s)

Flow 1 (95th percentile 181.42 ms)
Flow 2 (95th percentile 181.36 ms)
Flow 3 (95th percentile 101.68 ms)
Run 9: Statistics of PCC

Start at: 2018-01-27 01:40:42
End at: 2018-01-27 01:41:12

# Below is generated by plot.py at 2018-01-27 05:00:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 540.11 Mbit/s
  95th percentile per-packet one-way delay: 174.152 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 511.60 Mbit/s
  95th percentile per-packet one-way delay: 174.397 ms
  Loss rate: 1.36%
-- Flow 2:
  Average throughput: 34.06 Mbit/s
  95th percentile per-packet one-way delay: 169.444 ms
  Loss rate: 1.00%
-- Flow 3:
  Average throughput: 18.25 Mbit/s
  95th percentile per-packet one-way delay: 143.263 ms
  Loss rate: 2.12%
Run 9: Report of PCC — Data Link

![Graph showing throughput and per-packet one-way delay over time for three flows.](image-url)
Run 10: Statistics of PCC

End at: 2018-01-27 01:55:54

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.72 Mbit/s
95th percentile per-packet one-way delay: 128.042 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 531.10 Mbit/s
95th percentile per-packet one-way delay: 128.444 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 8.95 Mbit/s
95th percentile per-packet one-way delay: 124.688 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 32.78 Mbit/s
95th percentile per-packet one-way delay: 107.870 ms
Loss rate: 1.85%
Run 10: Report of PCC — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-26 23:46:43
Run 1: Report of QUIC Cubic — Data Link

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

- Throughput (Mbps): Flow 1 ingress (mean 0.18 Mbps), Flow 1 egress (mean 0.18 Mbps), Flow 2 ingress (mean 0.18 Mbps), Flow 2 egress (mean 0.18 Mbps), Flow 3 ingress (mean 0.18 Mbps), Flow 3 egress (mean 0.18 Mbps).
- Packet one-way delay (ms): Flow 1 (95th percentile 63.42 ms), Flow 2 (95th percentile 61.84 ms), Flow 3 (95th percentile 63.87 ms).
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-27 00:01:08
End at: 2018-01-27 00:01:38
Run 2: Report of QUIC Cubic — Data Link

Throughput (Mbit/s)

Time (s)

- Flow 1 ingress (mean 0.18 Mbit/s)
- Flow 1 egress (mean 0.18 Mbit/s)
- Flow 2 ingress (mean 0.18 Mbit/s)
- Flow 2 egress (mean 0.18 Mbit/s)
- Flow 3 ingress (mean 0.18 Mbit/s)
- Flow 3 egress (mean 0.18 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

- Flow 1 (95th percentile 63.60 ms)
- Flow 2 (95th percentile 64.02 ms)
- Flow 3 (95th percentile 64.06 ms)
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-27 00:15:55
End at: 2018-01-27 00:16:25
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-27 00:30:36
End at: 2018-01-27 00:31:06
Run 4: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 0.18 Mbit/s)
- Flow 1 egress (mean 0.18 Mbit/s)
- Flow 2 ingress (mean 0.18 Mbit/s)
- Flow 2 egress (mean 0.18 Mbit/s)
- Flow 3 ingress (mean 0.18 Mbit/s)
- Flow 3 egress (mean 0.18 Mbit/s)

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

- Flow 1 (95th percentile 63.86 ms)
- Flow 2 (95th percentile 62.12 ms)
- Flow 3 (95th percentile 63.98 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-27 00:45:31
End at: 2018-01-27 00:46:01
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-27 01:00:16
End at: 2018-01-27 01:00:46
Run 6: Report of QUIC Cubic — Data Link

![Graph 1: Throughput vs Time]

- Flow 1 ingress (mean 0.18 Mbit/s)
- Flow 1 egress (mean 0.18 Mbit/s)
- Flow 2 ingress (mean 0.18 Mbit/s)
- Flow 2 egress (mean 0.18 Mbit/s)
- Flow 3 ingress (mean 0.18 Mbit/s)
- Flow 3 egress (mean 0.18 Mbit/s)

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

- Flow 1 (95th percentile 63.57 ms)
- Flow 2 (95th percentile 64.08 ms)
- Flow 3 (95th percentile 63.96 ms)
Run 7: Statistics of QUIC Cubic

Start at: 2018-01-27 01:15:00
End at: 2018-01-27 01:15:30
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-01-27 01:29:24
End at: 2018-01-27 01:29:54
Run 8: Report of QUIC Cubic — Data Link
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-27 01:44:08
End at: 2018-01-27 01:44:38
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-27 01:58:55
End at: 2018-01-27 01:59:25
Run 10: Report of QUIC Cubic — Data Link

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

![Graph 2: Ping vs Time](image2)
Run 1: Statistics of SCReAM

Start at: 2018-01-26 23:46:02
End at: 2018-01-26 23:46:32

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.874 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.789 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.897 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.530 ms
  Loss rate: 1.10%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

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

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 63.718 ms
  Loss rate: 0.63%
  -- Flow 1:
    Average throughput: 0.19 Mbit/s
    95th percentile per-packet one-way delay: 63.615 ms
    Loss rate: 0.45%
  -- Flow 2:
    Average throughput: 0.22 Mbit/s
    95th percentile per-packet one-way delay: 63.658 ms
    Loss rate: 0.63%
  -- Flow 3:
    Average throughput: 0.22 Mbit/s
    95th percentile per-packet one-way delay: 63.790 ms
    Loss rate: 1.10%
Run 2: Report of SCReAM — Data Link
Run 3: Statistics of SCReAM

Start at: 2018-01-27 00:15:15
End at: 2018-01-27 00:15:45

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.745 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.711 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.764 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.594 ms
  Loss rate: 1.10%
Run 3: Report of SCReAM — Data Link

Throughput (Mbps)

0.14 0.16 0.18 0.20 0.22 0.24 0.26 0.28

Time (s)

0 5 10 15 20 25 30

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

Per-packet core wat / delay (ms)

0.6 0.65 0.7 0.75 0.8 0.85 0.9

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 63.71 ms)  Flow 2 (95th percentile 63.76 ms)  Flow 3 (95th percentile 63.59 ms)
Run 4: Statistics of SCReAM

Start at: 2018-01-27 00:29:56
End at: 2018-01-27 00:30:26

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.622 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.627 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.626 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.457 ms
  Loss rate: 1.10%
Run 4: Report of SCReAM — Data Link

![Graph showing network performance metrics over time]

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Run 5: Statistics of SCReAM

Start at: 2018-01-27 00:44:50
End at: 2018-01-27 00:45:20

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.593 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.666 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.616 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.610 ms
  Loss rate: 1.10%
Run 5: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.22 Mbit/s)
- Flow 1 egress (mean 0.22 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)
Run 6: Statistics of SCReAM

Start at: 2018-01-27 00:59:35
End at: 2018-01-27 01:00:05

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.835 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.655 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.530 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.891 ms
  Loss rate: 1.10%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-01-27 01:14:19
End at: 2018-01-27 01:14:49

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.652 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.444 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.801 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.612 ms
  Loss rate: 1.10%
Run 7: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.22 Mbit/s)
- Flow 1 egress (mean 0.22 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)
Run 8: Statistics of SCReAM

Start at: 2018-01-27 01:28:44
End at: 2018-01-27 01:29:14

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 63.754 ms
  Loss rate: 0.65%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.765 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 61.569 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.599 ms
  Loss rate: 1.10%
Run 8: Report of SCReAM — Data Link
Run 9: Statistics of SCReAM

Start at: 2018-01-27 01:43:27
End at: 2018-01-27 01:43:57

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 63.872 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 63.790 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.896 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.730 ms
Loss rate: 1.10%
Run 9: Report of SCReAM — Data Link

[Graph showing throughput and packet delay over time for different flows with annotations]

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Run 10: Statistics of SCReAM

Start at: 2018-01-27 01:58:15
End at: 2018-01-27 01:58:45

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.824 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.768 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.757 ms
Loss rate: 1.10%
Run 10: Report of SCReAM — Data Link
Run 1: Statistics of WebRTC media

Start at: 2018-01-26 23:35:34
End at: 2018-01-26 23:36:04

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 63.697 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 63.710 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 63.622 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 63.673 ms
Loss rate: 2.08%
Run 1: Report of WebRTC media — Data Link

![Graph showing throughput and per-packet delay over time for different flows.](image)
Run 2: Statistics of WebRTC media

Start at: 2018-01-26 23:50:19
End at: 2018-01-26 23:50:49

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.12 Mbit/s
  95th percentile per-packet one-way delay: 63.838 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 2.20 Mbit/s
  95th percentile per-packet one-way delay: 63.573 ms
  Loss rate: 0.56%
-- Flow 2:
  Average throughput: 1.39 Mbit/s
  95th percentile per-packet one-way delay: 63.649 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 0.55 Mbit/s
  95th percentile per-packet one-way delay: 63.937 ms
  Loss rate: 1.26%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2018-01-27 00:04:50
End at: 2018-01-27 00:05:20

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 4.15 Mbit/s
   95th percentile per-packet one-way delay: 63.693 ms
   Loss rate: 0.72%
-- Flow 1:
   Average throughput: 2.21 Mbit/s
   95th percentile per-packet one-way delay: 63.709 ms
   Loss rate: 0.47%
-- Flow 2:
   Average throughput: 1.40 Mbit/s
   95th percentile per-packet one-way delay: 63.612 ms
   Loss rate: 0.67%
-- Flow 3:
   Average throughput: 0.56 Mbit/s
   95th percentile per-packet one-way delay: 63.700 ms
   Loss rate: 1.86%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2018-01-27 00:19:31
End at: 2018-01-27 00:20:01

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 64.003 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 64.029 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 63.635 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 63.720 ms
Loss rate: 1.98%
Run 4: Report of WebRTC media — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image2)
Run 5: Statistics of WebRTC media

Start at: 2018-01-27 00:34:17  
End at: 2018-01-27 00:34:47

# Below is generated by plot.py at 2018-01-27 05:06:52  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 4.14 Mbit/s  
  95th percentile per-packet one-way delay: 63.963 ms  
  Loss rate: 0.82%  
-- Flow 1:  
  Average throughput: 2.21 Mbit/s  
  95th percentile per-packet one-way delay: 63.784 ms  
  Loss rate: 0.63%  
-- Flow 2:  
  Average throughput: 1.39 Mbit/s  
  95th percentile per-packet one-way delay: 64.013 ms  
  Loss rate: 0.88%  
-- Flow 3:  
  Average throughput: 0.57 Mbit/s  
  95th percentile per-packet one-way delay: 63.814 ms  
  Loss rate: 1.38%
Run 5: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.21 Mbit/s)
Flow 1 egress (mean 2.21 Mbit/s)
Flow 2 ingress (mean 1.40 Mbit/s)
Flow 2 egress (mean 1.39 Mbit/s)
Flow 3 ingress (mean 0.57 Mbit/s)
Flow 3 egress (mean 0.57 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 63.78 ms)
Flow 2 (95th percentile 64.01 ms)
Flow 3 (95th percentile 61.81 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-01-27 00:49:05
End at: 2018-01-27 00:49:35

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.599 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 63.566 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 63.529 ms
Loss rate: 1.89%
Run 6: Report of WebRTC media — Data Link

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

- **Flow 1** ( ingress mean 2.21 Mbit/s, egress mean 2.21 Mbit/s )
- **Flow 2** ( ingress mean 1.39 Mbit/s, egress mean 1.39 Mbit/s )
- **Flow 3** ( ingress mean 0.57 Mbit/s, egress mean 0.56 Mbit/s )
Run 7: Statistics of WebRTC media

Start at: 2018-01-27 01:03:59
End at: 2018-01-27 01:04:29

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.17 Mbit/s
  95th percentile per-packet one-way delay: 63.780 ms
  Loss rate: 0.85%
-- Flow 1:
  Average throughput: 2.22 Mbit/s
  95th percentile per-packet one-way delay: 63.801 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 1.41 Mbit/s
  95th percentile per-packet one-way delay: 63.470 ms
  Loss rate: 0.64%
-- Flow 3:
  Average throughput: 0.56 Mbit/s
  95th percentile per-packet one-way delay: 63.579 ms
  Loss rate: 2.21%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-01-27 01:18:20
End at: 2018-01-27 01:18:50

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.16 Mbit/s
  95th percentile per-packet one-way delay: 63.864 ms
  Loss rate: 0.73%
-- Flow 1:
  Average throughput: 2.22 Mbit/s
  95th percentile per-packet one-way delay: 63.771 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 1.39 Mbit/s
  95th percentile per-packet one-way delay: 63.454 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 0.57 Mbit/s
  95th percentile per-packet one-way delay: 63.956 ms
  Loss rate: 1.91%
Run 8: Report of WebRTC media — Data Link
Run 9: Statistics of WebRTC media

Start at: 2018-01-27 01:32:59
End at: 2018-01-27 01:33:29

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 63.875 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 63.820 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 63.911 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 63.783 ms
Loss rate: 2.03%
Run 9: Report of WebRTC media — Data Link

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

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

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Run 10: Statistics of WebRTC media

Start at: 2018-01-27 01:47:51
End at: 2018-01-27 01:48:21

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.17 Mbit/s
  95th percentile per-packet one-way delay: 63.839 ms
  Loss rate: 0.79%
-- Flow 1:
  Average throughput: 2.22 Mbit/s
  95th percentile per-packet one-way delay: 63.849 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 1.40 Mbit/s
  95th percentile per-packet one-way delay: 63.836 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 0.57 Mbit/s
  95th percentile per-packet one-way delay: 63.685 ms
  Loss rate: 2.24%
Run 10: Report of WebRTC media — Data Link
Run 1: Statistics of Sprout

End at: 2018-01-26 23:47:53

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 12.84 Mbit/s
   95th percentile per-packet one-way delay: 64.154 ms
   Loss rate: 0.80%
   -- Flow 1:
      Average throughput: 6.55 Mbit/s
      95th percentile per-packet one-way delay: 64.151 ms
      Loss rate: 0.52%
   -- Flow 2:
      Average throughput: 6.49 Mbit/s
      95th percentile per-packet one-way delay: 64.108 ms
      Loss rate: 0.72%
   -- Flow 3:
      Average throughput: 6.10 Mbit/s
      95th percentile per-packet one-way delay: 64.207 ms
      Loss rate: 1.88%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-01-27 00:01:49
End at: 2018-01-27 00:02:19

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 64.041 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 64.008 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 64.128 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 6.30 Mbit/s
95th percentile per-packet one-way delay: 63.671 ms
Loss rate: 1.70%
Run 2: Report of Sprout — Data Link

![Graph showing throughput over time for different flows."

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

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Run 3: Statistics of Sprout

Start at: 2018-01-27 00:16:36
End at: 2018-01-27 00:17:06

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 64.277 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 64.284 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 64.269 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 64.266 ms
Loss rate: 1.99%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2018-01-27 00:31:17
End at: 2018-01-27 00:31:47

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 64.260 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 64.191 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 64.364 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 64.192 ms
Loss rate: 1.64%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2018-01-27 00:46:11
End at: 2018-01-27 00:46:41

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 64.319 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 64.339 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 64.268 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 64.376 ms
Loss rate: 1.91%
Run 5: Report of Sprout — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 6.65 Mbps)
  - Flow 2 ingress (mean 6.55 Mbps)
  - Flow 3 ingress (mean 5.66 Mbps)
  - Flow 1 egress (mean 6.65 Mbps)
  - Flow 2 egress (mean 6.57 Mbps)
  - Flow 3 egress (mean 5.64 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 64.34 ms)
  - Flow 2 (95th percentile 64.27 ms)
  - Flow 3 (95th percentile 64.38 ms)
Run 6: Statistics of Sprout

Start at: 2018-01-27 01:00:56
End at: 2018-01-27 01:01:26

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 12.64 Mbit/s
  95th percentile per-packet one-way delay: 64.268 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 6.56 Mbit/s
  95th percentile per-packet one-way delay: 64.332 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 6.34 Mbit/s
  95th percentile per-packet one-way delay: 64.163 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 5.73 Mbit/s
  95th percentile per-packet one-way delay: 64.164 ms
  Loss rate: 1.57%
Run 6: Report of Sprout — Data Link
Run 7: Statistics of Sprout

Start at: 2018-01-27 01:15:40
End at: 2018-01-27 01:16:10

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 13.04 Mbit/s
  95th percentile per-packet one-way delay: 64.183 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 6.63 Mbit/s
  95th percentile per-packet one-way delay: 64.116 ms
  Loss rate: 0.31%
-- Flow 2:
  Average throughput: 6.57 Mbit/s
  95th percentile per-packet one-way delay: 64.343 ms
  Loss rate: 0.34%
-- Flow 3:
  Average throughput: 6.29 Mbit/s
  95th percentile per-packet one-way delay: 62.179 ms
  Loss rate: 1.60%
Run 7: Report of Sprout — Data Link

![Throughput (Mb/s)](image)

Flow 1 ingress (mean 6.62 Mb/s) - Flow 2 ingress (mean 6.55 Mb/s) - Flow 3 ingress (mean 6.30 Mb/s)

Flow 1 egress (mean 6.63 Mb/s) - Flow 2 egress (mean 6.57 Mb/s) - Flow 3 egress (mean 6.29 Mb/s)

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

Flow 1 (95th percentile 64.12 ms) - Flow 2 (95th percentile 64.34 ms) - Flow 3 (95th percentile 62.18 ms)
Run 8: Statistics of Sprout

Start at: 2018-01-27 01:30:05
End at: 2018-01-27 01:30:35

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 64.166 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 64.147 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 64.188 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 64.153 ms
Loss rate: 0.37%
Run 8: Report of Sprout — Data Link
Run 9: Statistics of Sprout

Start at: 2018-01-27 01:44:48
End at: 2018-01-27 01:45:18

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 64.295 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 64.175 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 64.314 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 64.519 ms
Loss rate: 0.37%
Run 9: Report of Sprout — Data Link

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

- **Flow 1** ingress (mean 6.50 Mbit/s) and egress (mean 6.50 Mbit/s)
- **Flow 2** ingress (mean 6.43 Mbit/s) and egress (mean 6.46 Mbit/s)
- **Flow 3** ingress (mean 6.34 Mbit/s) and egress (mean 6.38 Mbit/s)
Run 10: Statistics of Sprout

Start at: 2018-01-27 01:59:36
End at: 2018-01-27 02:00:06

# Below is generated by plot.py at 2018-01-27 05:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.13 Mbit/s
95th percentile per-packet one-way delay: 62.448 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 62.460 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 62.443 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 62.432 ms
Loss rate: 1.53%
Run 10: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2018-01-26 23:33:16
End at: 2018-01-26 23:33:46

# Below is generated by plot.py at 2018-01-27 05:09:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.30 Mbit/s
95th percentile per-packet one-way delay: 64.351 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 148.75 Mbit/s
95th percentile per-packet one-way delay: 64.030 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 225.88 Mbit/s
95th percentile per-packet one-way delay: 64.463 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 199.65 Mbit/s
95th percentile per-packet one-way delay: 65.249 ms
Loss rate: 1.54%
Run 1: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 148.49 Mbit/s)
- Flow 1 egress (mean 148.75 Mbit/s)
- Flow 2 ingress (mean 226.04 Mbit/s)
- Flow 2 egress (mean 225.88 Mbit/s)
- Flow 3 ingress (mean 199.56 Mbit/s)
- Flow 3 egress (mean 199.65 Mbit/s)

- Flow 1 (95th percentile 64.03 ms)
- Flow 2 (95th percentile 64.46 ms)
- Flow 3 (95th percentile 65.25 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-01-26 23:48:05

# Below is generated by plot.py at 2018-01-27 05:09:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 323.35 Mbit/s
  95th percentile per-packet one-way delay: 63.731 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 177.04 Mbit/s
  95th percentile per-packet one-way delay: 63.566 ms
  Loss rate: 0.23%
-- Flow 2:
  Average throughput: 141.00 Mbit/s
  95th percentile per-packet one-way delay: 63.810 ms
  Loss rate: 0.46%
-- Flow 3:
  Average throughput: 199.62 Mbit/s
  95th percentile per-packet one-way delay: 63.761 ms
  Loss rate: 1.53%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2018-01-27 00:02:31
End at: 2018-01-27 00:03:01

# Below is generated by plot.py at 2018-01-27 05:09:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 358.52 Mbit/s
  95th percentile per-packet one-way delay: 65.591 ms
  Loss rate: 0.56%
-- Flow 1:
  Average throughput: 171.30 Mbit/s
  95th percentile per-packet one-way delay: 63.799 ms
  Loss rate: 0.21%
-- Flow 2:
  Average throughput: 195.33 Mbit/s
  95th percentile per-packet one-way delay: 66.038 ms
  Loss rate: 0.37%
-- Flow 3:
  Average throughput: 221.69 Mbit/s
  95th percentile per-packet one-way delay: 67.845 ms
  Loss rate: 1.90%
Run 3: Report of TaoVA-100x — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 ingress (mean 170.90 Mbps)
- Flow 1 egress (mean 171.30 Mbps)
- Flow 2 ingress (mean 194.61 Mbps)
- Flow 2 egress (mean 195.53 Mbps)
- Flow 3 ingress (mean 222.35 Mbps)
- Flow 3 egress (mean 221.69 Mbps)

Graph 2: Per-packet one-way delay (ms)
- Flow 1 (95th percentile 63.80 ms)
- Flow 2 (95th percentile 66.04 ms)
- Flow 3 (95th percentile 67.84 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2018-01-27 00:17:18
End at: 2018-01-27 00:17:48

# Below is generated by plot.py at 2018-01-27 05:09:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 302.51 Mbit/s
  95th percentile per-packet one-way delay: 66.355 ms
  Loss rate: 0.85%
-- Flow 1:
  Average throughput: 211.88 Mbit/s
  95th percentile per-packet one-way delay: 63.501 ms
  Loss rate: 0.20%
-- Flow 2:
  Average throughput: 45.57 Mbit/s
  95th percentile per-packet one-way delay: 74.168 ms
  Loss rate: 3.41%
-- Flow 3:
  Average throughput: 219.05 Mbit/s
  95th percentile per-packet one-way delay: 71.317 ms
  Loss rate: 1.82%
Run 4: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 211.35 Mbit/s) and Flow 1 egress (mean 211.88 Mbit/s)
- Flow 2 ingress (mean 45.66 Mbit/s) and Flow 2 egress (mean 45.57 Mbit/s)
- Flow 3 ingress (mean 219.50 Mbit/s) and Flow 3 egress (mean 219.03 Mbit/s)
Run 5: Statistics of TaoVA-100x

Start at: 2018-01-27 00:31:59
End at: 2018-01-27 00:32:29

# Below is generated by plot.py at 2018-01-27 05:09:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.82 Mbit/s
95th percentile per-packet one-way delay: 68.367 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 189.72 Mbit/s
95th percentile per-packet one-way delay: 64.851 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 151.10 Mbit/s
95th percentile per-packet one-way delay: 74.678 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 223.08 Mbit/s
95th percentile per-packet one-way delay: 67.936 ms
Loss rate: 1.73%
Run 5: Report of TaoVA-100x — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 189.26 Mbps)
- Flow 1 egress (mean 189.72 Mbps)
- Flow 2 ingress (mean 150.67 Mbps)
- Flow 2 egress (mean 151.10 Mbps)
- Flow 3 ingress (mean 223.33 Mbps)
- Flow 3 egress (mean 223.08 Mbps)

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

- Flow 1 (95th percentile 64.85 ms)
- Flow 2 (95th percentile 74.68 ms)
- Flow 3 (95th percentile 67.94 ms)
Run 6: Statistics of TaoVA-100x

Start at: 2018-01-27 00:46:53
End at: 2018-01-27 00:47:23

# Below is generated by plot.py at 2018-01-27 05:09:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.53 Mbit/s
95th percentile per-packet one-way delay: 66.399 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 215.81 Mbit/s
95th percentile per-packet one-way delay: 66.875 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 140.72 Mbit/s
95th percentile per-packet one-way delay: 65.149 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 42.06 Mbit/s
95th percentile per-packet one-way delay: 67.878 ms
Loss rate: 0.76%
Run 6: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 215.58 Mbit/s)
- Flow 1 egress (mean 215.81 Mbit/s)
- Flow 2 ingress (mean 139.86 Mbit/s)
- Flow 2 egress (mean 140.72 Mbit/s)
- Flow 3 ingress (mean 41.88 Mbit/s)
- Flow 3 egress (mean 42.06 Mbit/s)

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

- Flow 1 (95th percentile 66.88 ms)
- Flow 2 (95th percentile 65.15 ms)
- Flow 3 (95th percentile 67.88 ms)
Run 7: Statistics of TaoVA-100x

Start at: 2018-01-27 01:01:38
End at: 2018-01-27 01:02:08

# Below is generated by plot.py at 2018-01-27 05:10:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.21 Mbit/s
95th percentile per-packet one-way delay: 65.502 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 211.90 Mbit/s
95th percentile per-packet one-way delay: 64.305 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 173.70 Mbit/s
95th percentile per-packet one-way delay: 67.145 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 72.25 Mbit/s
95th percentile per-packet one-way delay: 67.322 ms
Loss rate: 1.71%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

Start at: 2018-01-27 01:16:22
End at: 2018-01-27 01:16:52

# Below is generated by plot.py at 2018-01-27 05:11:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.15 Mbit/s
95th percentile per-packet one-way delay: 63.649 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 61.41 Mbit/s
95th percentile per-packet one-way delay: 63.919 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 63.649 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 242.31 Mbit/s
95th percentile per-packet one-way delay: 61.579 ms
Loss rate: 1.56%
Run 8: Report of TaoVA-100x — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 61.20 Mbps)
Flow 1 egress (mean 61.41 Mbps)
Flow 2 ingress (mean 13.64 Mbps)
Flow 2 egress (mean 13.65 Mbps)
Flow 3 ingress (mean 242.34 Mbps)
Flow 3 egress (mean 242.31 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 63.92 ms)
Flow 2 (95th percentile 63.65 ms)
Flow 3 (95th percentile 61.58 ms)
Run 9: Statistics of TaoVA-100x

Start at: 2018-01-27 01:30:46
End at: 2018-01-27 01:31:16

# Below is generated by plot.py at 2018-01-27 05:16:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.99 Mbit/s
95th percentile per-packet one-way delay: 63.836 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 193.80 Mbit/s
95th percentile per-packet one-way delay: 63.827 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 90.90 Mbit/s
95th percentile per-packet one-way delay: 63.861 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 153.20 Mbit/s
95th percentile per-packet one-way delay: 63.841 ms
Loss rate: 1.71%
Run 9: Report of TaoVA-100x — Data Link
Run 10: Statistics of TaoVA-100x

Start at: 2018-01-27 01:45:30
End at: 2018-01-27 01:46:00

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 369.07 Mbit/s
  95th percentile per-packet one-way delay: 63.574 ms
  Loss rate: 0.72%
  -- Flow 1:
  Average throughput: 201.67 Mbit/s
  95th percentile per-packet one-way delay: 63.289 ms
  Loss rate: 0.56%
  -- Flow 2:
  Average throughput: 159.98 Mbit/s
  95th percentile per-packet one-way delay: 63.633 ms
  Loss rate: 0.39%
  -- Flow 3:
  Average throughput: 231.73 Mbit/s
  95th percentile per-packet one-way delay: 61.612 ms
  Loss rate: 1.74%
Run 10: Report of TaoVA-100x — Data Link

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

Legend for graphs:
- Flow 1 ingress (mean 201.89 Mbit/s)
- Flow 1 egress (mean 201.67 Mbit/s)
- Flow 2 ingress (mean 159.50 Mbit/s)
- Flow 2 egress (mean 159.98 Mbit/s)
- Flow 3 ingress (mean 232.12 Mbit/s)
- Flow 3 egress (mean 231.73 Mbit/s)
Run 1: Statistics of TCP Vegas

Start at: 2018-01-26 23:40:22
End at: 2018-01-26 23:40:52

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 33.67 Mbit/s
  95th percentile per-packet one-way delay: 64.306 ms
  Loss rate: 0.90%
-- Flow 1:
  Average throughput: 12.73 Mbit/s
  95th percentile per-packet one-way delay: 64.304 ms
  Loss rate: 0.80%
-- Flow 2:
  Average throughput: 14.78 Mbit/s
  95th percentile per-packet one-way delay: 64.360 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 33.92 Mbit/s
  95th percentile per-packet one-way delay: 64.265 ms
  Loss rate: 1.35%
Run 1: Report of TCP Vegas — Data Link

![Chart 1: Throughput (Mbps)](chart1.png)

![Chart 2: Per-packet one-way delay (ms)](chart2.png)
Run 2: Statistics of TCP Vegas

End at: 2018-01-26 23:55:34

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.10 Mbit/s
95th percentile per-packet one-way delay: 65.563 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 100.83 Mbit/s
95th percentile per-packet one-way delay: 65.447 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 85.72 Mbit/s
95th percentile per-packet one-way delay: 65.805 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 89.30 Mbit/s
95th percentile per-packet one-way delay: 65.447 ms
Loss rate: 1.45%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-01-27 00:09:35
End at: 2018-01-27 00:10:05

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 39.65 Mbit/s
  95th percentile per-packet one-way delay: 65.216 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 335.585 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 33.35 Mbit/s
  95th percentile per-packet one-way delay: 64.222 ms
  Loss rate: 0.56%
-- Flow 3:
  Average throughput: 52.09 Mbit/s
  95th percentile per-packet one-way delay: 66.743 ms
  Loss rate: 1.41%
Run 3: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 0.00 Mbit/s)
- Flow 1 egress (mean 0.00 Mbit/s)
- Flow 2 ingress (mean 33.33 Mbit/s)
- Flow 2 egress (mean 33.35 Mbit/s)
- Flow 3 ingress (mean 52.15 Mbit/s)
- Flow 3 egress (mean 52.09 Mbit/s)

![Graph showing packet loss over time for different flows.]

- Flow 1 (95th percentile 335.58 ms)
- Flow 2 (95th percentile 64.22 ms)
- Flow 3 (95th percentile 66.74 ms)
Run 4: Statistics of TCP Vegas

Start at: 2018-01-27 00:24:17
End at: 2018-01-27 00:24:47

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 65.153 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 74.43 Mbit/s
95th percentile per-packet one-way delay: 65.830 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 64.198 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 15.65 Mbit/s
95th percentile per-packet one-way delay: 64.442 ms
Loss rate: 1.59%
Run 4: Report of TCP Vegas — Data Link

[Graphs showing throughput and packet round-trip delay over time for different flows with mean and 95th percentile delays.]
Run 5: Statistics of TCP Vegas

Start at: 2018-01-27 00:39:06
End at: 2018-01-27 00:39:36

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.73 Mbit/s
95th percentile per-packet one-way delay: 69.257 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 76.80 Mbit/s
95th percentile per-packet one-way delay: 66.418 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 117.07 Mbit/s
95th percentile per-packet one-way delay: 68.968 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 104.28 Mbit/s
95th percentile per-packet one-way delay: 71.155 ms
Loss rate: 0.86%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-01-27 00:53:58
End at: 2018-01-27 00:54:28

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 136.39 Mbit/s
  95th percentile per-packet one-way delay: 65.260 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 81.68 Mbit/s
  95th percentile per-packet one-way delay: 65.316 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 75.30 Mbit/s
  95th percentile per-packet one-way delay: 65.256 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 14.47 Mbit/s
  95th percentile per-packet one-way delay: 64.411 ms
  Loss rate: 1.32%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-01-27 01:08:45
End at: 2018-01-27 01:09:15

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 40.69 Mbit/s
  95th percentile per-packet one-way delay: 64.078 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 14.10 Mbit/s
  95th percentile per-packet one-way delay: 63.996 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 8.82 Mbit/s
  95th percentile per-packet one-way delay: 63.669 ms
  Loss rate: 1.19%
-- Flow 3:
  Average throughput: 63.15 Mbit/s
  95th percentile per-packet one-way delay: 65.452 ms
  Loss rate: 1.35%
Run 7: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 14.14 Mbit/s)
- Flow 1 egress (mean 14.10 Mbit/s)
- Flow 2 ingress (mean 8.67 Mbit/s)
- Flow 2 egress (mean 8.82 Mbit/s)
- Flow 3 ingress (mean 63.21 Mbit/s)
- Flow 3 egress (mean 63.15 Mbit/s)
Run 8: Statistics of TCP Vegas

Start at: 2018-01-27 01:23:09
End at: 2018-01-27 01:23:39

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 229.64 Mbit/s
  95th percentile per-packet one-way delay: 70.017 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 112.74 Mbit/s
  95th percentile per-packet one-way delay: 70.225 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 109.16 Mbit/s
  95th percentile per-packet one-way delay: 70.232 ms
  Loss rate: 0.40%
-- Flow 3:
  Average throughput: 134.89 Mbit/s
  95th percentile per-packet one-way delay: 67.434 ms
  Loss rate: 1.46%
Run 8: Report of TCP Vegas — Data Link

![Graph of throughput and delay](image)

- **Throughput**
  - Flow 1 ingress (mean 112.69 Mbit/s)
  - Flow 1 egress (mean 112.74 Mbit/s)
  - Flow 2 ingress (mean 108.91 Mbit/s)
  - Flow 2 egress (mean 109.16 Mbit/s)
  - Flow 3 ingress (mean 135.19 Mbit/s)
  - Flow 3 egress (mean 134.89 Mbit/s)

- **Delay**
  - Flow 1 (95th percentile 70.22 ms)
  - Flow 2 (95th percentile 70.23 ms)
  - Flow 3 (95th percentile 67.43 ms)
Run 9: Statistics of TCP Vegas

Start at: 2018-01-27 01:37:50
End at: 2018-01-27 01:38:20

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 130.55 Mbit/s
  95th percentile per-packet one-way delay: 72.206 ms
  Loss rate: 0.29%
-- Flow 1:
  Average throughput: 13.76 Mbit/s
  95th percentile per-packet one-way delay: 70.791 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 169.06 Mbit/s
  95th percentile per-packet one-way delay: 72.447 ms
  Loss rate: 0.23%
-- Flow 3:
  Average throughput: 13.64 Mbit/s
  95th percentile per-packet one-way delay: 69.079 ms
  Loss rate: 1.37%
Run 9: Report of TCP Vegas — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 13.76 Mbps)
  - Flow 1 egress (mean 13.76 Mbps)
  - Flow 2 ingress (mean 169.6 Mbps)
  - Flow 2 egress (mean 169.6 Mbps)
  - Flow 3 ingress (mean 13.65 Mbps)
  - Flow 3 egress (mean 13.64 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 70.79 ms)
  - Flow 2 (95th percentile 72.45 ms)
  - Flow 3 (95th percentile 69.08 ms)
Run 10: Statistics of TCP Vegas

Start at: 2018-01-27 01:52:35
End at: 2018-01-27 01:53:05

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.19 Mbit/s
95th percentile per-packet one-way delay: 70.777 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 63.84 Mbit/s
95th percentile per-packet one-way delay: 68.056 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 17.96 Mbit/s
95th percentile per-packet one-way delay: 69.360 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 98.73 Mbit/s
95th percentile per-packet one-way delay: 72.473 ms
Loss rate: 0.83%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-01-26 23:34:32
End at: 2018-01-26 23:35:02

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.15 Mbit/s
95th percentile per-packet one-way delay: 103.405 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 131.53 Mbit/s
95th percentile per-packet one-way delay: 103.539 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 135.34 Mbit/s
95th percentile per-packet one-way delay: 98.648 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 107.568 ms
Loss rate: 0.74%
Run 1: Report of Verus — Data Link

![Graph of data link performance](image1)

- **Throughput**:
  - Flow 1 ingress (mean 133.19 Mbit/s)
  - Flow 1 egress (mean 131.53 Mbit/s)
  - Flow 2 ingress (mean 134.69 Mbit/s)
  - Flow 2 egress (mean 135.34 Mbit/s)
  - Flow 3 ingress (mean 95.49 Mbit/s)
  - Flow 3 egress (mean 95.98 Mbit/s)

![Graph of packet loss rate](image2)

- **Packet Loss Rate**:
  - Flow 1 (95th percentile: 103.54 ms)
  - Flow 2 (95th percentile: 98.65 ms)
  - Flow 3 (95th percentile: 107.57 ms)
Run 2: Statistics of Verus

Start at: 2018-01-26 23:49:16
End at: 2018-01-26 23:49:46

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.95 Mbit/s
95th percentile per-packet one-way delay: 98.953 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 154.35 Mbit/s
95th percentile per-packet one-way delay: 109.983 ms
Loss rate: 3.13%
-- Flow 2:
Average throughput: 121.73 Mbit/s
95th percentile per-packet one-way delay: 94.045 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 130.39 Mbit/s
95th percentile per-packet one-way delay: 95.415 ms
Loss rate: 1.65%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-01-27 00:03:45
End at: 2018-01-27 00:04:15

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.16 Mbit/s
95th percentile per-packet one-way delay: 146.605 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 214.62 Mbit/s
95th percentile per-packet one-way delay: 149.119 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 111.80 Mbit/s
95th percentile per-packet one-way delay: 136.880 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 76.35 Mbit/s
95th percentile per-packet one-way delay: 146.789 ms
Loss rate: 1.27%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-01-27 00:18:27
End at: 2018-01-27 00:18:57

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 294.88 Mbit/s
  95th percentile per-packet one-way delay: 238.914 ms
  Loss rate: 3.03%
  -- Flow 1:
  Average throughput: 124.75 Mbit/s
  95th percentile per-packet one-way delay: 173.792 ms
  Loss rate: 1.80%
  -- Flow 2:
  Average throughput: 187.13 Mbit/s
  95th percentile per-packet one-way delay: 263.244 ms
  Loss rate: 4.72%
  -- Flow 3:
  Average throughput: 142.70 Mbit/s
  95th percentile per-packet one-way delay: 203.362 ms
  Loss rate: 1.67%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

Start at: 2018-01-27 00:33:14
End at: 2018-01-27 00:33:44

# Below is generated by plot.py at 2018-01-27 05:19:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.95 Mbit/s
95th percentile per-packet one-way delay: 174.512 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 213.32 Mbit/s
95th percentile per-packet one-way delay: 183.079 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 141.034 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 66.41 Mbit/s
95th percentile per-packet one-way delay: 176.520 ms
Loss rate: 5.85%
Run 5: Report of Verus — Data Link

![Graph showing network performance metrics over time with various flow rates and delays.]

- **Flow 1 ingress (mean 214.61 Mbit/s)**
- **Flow 1 egress (mean 213.32 Mbit/s)**
- **Flow 2 ingress (mean 92.03 Mbit/s)**
- **Flow 2 egress (mean 91.72 Mbit/s)**
- **Flow 3 ingress (mean 69.69 Mbit/s)**
- **Flow 3 egress (mean 66.41 Mbit/s)**
Run 6: Statistics of Verus

Start at: 2018-01-27 00:48:03
End at: 2018-01-27 00:48:33

# Below is generated by plot.py at 2018-01-27 05:20:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 280.91 Mbit/s
  95th percentile per-packet one-way delay: 121.146 ms
  Loss rate: 0.70%
-- Flow 1:
  Average throughput: 146.57 Mbit/s
  95th percentile per-packet one-way delay: 104.641 ms
  Loss rate: 0.86%
-- Flow 2:
  Average throughput: 160.36 Mbit/s
  95th percentile per-packet one-way delay: 153.591 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 84.72 Mbit/s
  95th percentile per-packet one-way delay: 109.174 ms
  Loss rate: 1.67%
Run 7: Statistics of Verus

Start at: 2018-01-27 01:02:51
End at: 2018-01-27 01:03:21

# Below is generated by plot.py at 2018-01-27 05:23:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 364.94 Mbit/s
  95th percentile per-packet one-way delay: 104.433 ms
  Loss rate: 0.41%
-- Flow 1:
  Average throughput: 230.13 Mbit/s
  95th percentile per-packet one-way delay: 101.598 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 135.01 Mbit/s
  95th percentile per-packet one-way delay: 111.498 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 140.43 Mbit/s
  95th percentile per-packet one-way delay: 104.899 ms
  Loss rate: 1.35%
Run 7: Report of Verus — Data Link

![Graph showing network performance metrics for different flows over time. The graphs display throughput and per-packet one-way delay for flows 1, 2, and 3, with specified mean throughput and 95th percentile delay values.]
Run 8: Statistics of Verus

Start at: 2018-01-27 01:17:16
End at: 2018-01-27 01:17:46

# Below is generated by plot.py at 2018-01-27 05:23:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 303.28 Mbit/s
  95th percentile per-packet one-way delay: 174.392 ms
  Loss rate: 0.89%
-- Flow 1:
  Average throughput: 201.57 Mbit/s
  95th percentile per-packet one-way delay: 138.548 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 69.89 Mbit/s
  95th percentile per-packet one-way delay: 156.087 ms
  Loss rate: 0.31%
-- Flow 3:
  Average throughput: 169.17 Mbit/s
  95th percentile per-packet one-way delay: 257.970 ms
  Loss rate: 2.62%
Run 8: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 201.45 Mbit/s)
- Flow 1 egress (mean 201.57 Mbit/s)
- Flow 2 ingress (mean 69.66 Mbit/s)
- Flow 2 egress (mean 69.89 Mbit/s)
- Flow 3 ingress (mean 176.85 Mbit/s)
- Flow 3 egress (mean 169.17 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 138.55 ms)
- Flow 2 (95th percentile 156.09 ms)
- Flow 3 (95th percentile 257.97 ms)
Run 9: Statistics of Verus

Start at: 2018-01-27 01:31:54
End at: 2018-01-27 01:32:24

# Below is generated by plot.py at 2018-01-27 05:23:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.85 Mbit/s
95th percentile per-packet one-way delay: 207.993 ms
Loss rate: 3.84%
-- Flow 1:
Average throughput: 179.76 Mbit/s
95th percentile per-packet one-way delay: 126.201 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 156.12 Mbit/s
95th percentile per-packet one-way delay: 212.813 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 330.788 ms
Loss rate: 21.75%
Run 9: Report of Verus — Data Link

The diagrams show the throughput and packet delay over time for three different data flows. The figures indicate the mean values for each flow and the percentile delays for different data points.

Throughput (Mbps):
- Flow 1 ingress (mean 180.42 Mbps)
- Flow 1 egress (mean 179.76 Mbps)
- Flow 2 ingress (mean 159.41 Mbps)
- Flow 2 egress (mean 156.12 Mbps)
- Flow 3 ingress (mean 112.79 Mbps)
- Flow 3 egress (mean 99.39 Mbps)

Packet Delay (ms):
- Flow 1 (95th percentile 126.20 ms)
- Flow 2 (95th percentile 212.81 ms)
- Flow 3 (95th percentile 330.79 ms)
Run 10: Statistics of Verus

Start at: 2018-01-27 01:46:45
End at: 2018-01-27 01:47:15

# Below is generated by plot.py at 2018-01-27 05:24:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 331.05 Mbit/s
  95th percentile per-packet one-way delay: 149.330 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 188.37 Mbit/s
  95th percentile per-packet one-way delay: 138.230 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 159.42 Mbit/s
  95th percentile per-packet one-way delay: 176.139 ms
  Loss rate: 1.19%
-- Flow 3:
  Average throughput: 115.32 Mbit/s
  95th percentile per-packet one-way delay: 176.220 ms
  Loss rate: 3.75%
Run 10: Report of Verus — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 1: Statistics of Copa

Start at: 2018-01-26 23:41:05
End at: 2018-01-26 23:41:35

# Below is generated by plot.py at 2018-01-27 05:24:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.19 Mbit/s
95th percentile per-packet one-way delay: 63.925 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 63.516 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 70.48 Mbit/s
95th percentile per-packet one-way delay: 64.047 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 61.61 Mbit/s
95th percentile per-packet one-way delay: 63.659 ms
Loss rate: 2.36%
Run 1: Report of Copa — Data Link

![Graph showing throughput and delay over time for different flows.]
Run 2: Statistics of Copa

End at: 2018-01-26 23:56:26

# Below is generated by plot.py at 2018-01-27 05:24:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 106.82 Mbit/s
  95th percentile per-packet one-way delay: 63.684 ms
  Loss rate: 0.74%
-- Flow 1:
  Average throughput: 51.77 Mbit/s
  95th percentile per-packet one-way delay: 63.602 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 56.15 Mbit/s
  95th percentile per-packet one-way delay: 63.667 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 68.01 Mbit/s
  95th percentile per-packet one-way delay: 63.801 ms
  Loss rate: 2.12%
Run 2: Report of Copa — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 3: Statistics of Copa

Start at: 2018-01-27 00:10:19
End at: 2018-01-27 00:10:49

# Below is generated by plot.py at 2018-01-27 05:24:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 150.79 Mbit/s
  95th percentile per-packet one-way delay: 63.644 ms
  Loss rate: 0.48%
-- Flow 1:
  Average throughput: 79.16 Mbit/s
  95th percentile per-packet one-way delay: 63.694 ms
  Loss rate: 0.23%
-- Flow 2:
  Average throughput: 81.13 Mbit/s
  95th percentile per-packet one-way delay: 63.620 ms
  Loss rate: 0.60%
-- Flow 3:
  Average throughput: 70.37 Mbit/s
  95th percentile per-packet one-way delay: 61.746 ms
  Loss rate: 1.20%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2018-01-27 00:25:03
End at: 2018-01-27 00:25:33

# Below is generated by plot.py at 2018-01-27 05:24:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 147.02 Mbit/s
  95th percentile per-packet one-way delay: 64.051 ms
  Loss rate: 0.74%
-- Flow 1:
  Average throughput: 79.38 Mbit/s
  95th percentile per-packet one-way delay: 64.058 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 73.78 Mbit/s
  95th percentile per-packet one-way delay: 64.082 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 72.98 Mbit/s
  95th percentile per-packet one-way delay: 63.791 ms
  Loss rate: 2.05%
Run 4: Report of Copa — Data Link

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

- Flow 1 ingress (mean 79.35 Mbps)
- Flow 1 egress (mean 79.38 Mbps)
- Flow 2 ingress (mean 73.81 Mbps)
- Flow 2 egress (mean 73.78 Mbps)
- Flow 3 ingress (mean 73.33 Mbps)
- Flow 3 egress (mean 72.98 Mbps)

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

- Flow 1 (95th percentile 64.06 ms)
- Flow 2 (95th percentile 64.08 ms)
- Flow 3 (95th percentile 61.79 ms)
Run 5: Statistics of Copa

Start at: 2018-01-27 00:39:58
End at: 2018-01-27 00:40:28

# Below is generated by plot.py at 2018-01-27 05:26:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.38 Mbit/s
95th percentile per-packet one-way delay: 63.635 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 63.630 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 63.680 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 63.596 ms
Loss rate: 2.33%
Run 5: Report of Copa — Data Link

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

![Graph 2: Per-packet round-trip delay vs. Time](image2)
Run 6: Statistics of Copa

Start at: 2018-01-27 00:54:47
End at: 2018-01-27 00:55:17

# Below is generated by plot.py at 2018-01-27 05:26:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.53 Mbit/s
95th percentile per-packet one-way delay: 63.645 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 85.19 Mbit/s
95th percentile per-packet one-way delay: 63.649 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 52.01 Mbit/s
95th percentile per-packet one-way delay: 63.584 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 63.800 ms
Loss rate: 2.27%
Run 6: Report of Copa — Data Link
Run 7: Statistics of Copa

Start at: 2018-01-27 01:09:28
End at: 2018-01-27 01:09:58

# Below is generated by plot.py at 2018-01-27 05:27:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.26 Mbit/s
95th percentile per-packet one-way delay: 63.617 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 63.84 Mbit/s
95th percentile per-packet one-way delay: 63.558 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 69.03 Mbit/s
95th percentile per-packet one-way delay: 63.688 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 100.55 Mbit/s
95th percentile per-packet one-way delay: 63.610 ms
Loss rate: 1.56%
Run 7: Report of Copa — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 ingress (mean 63.61 Mbps)
- Flow 1 egress (mean 63.84 Mbps)
- Flow 2 ingress (mean 69.01 Mbps)
- Flow 2 egress (mean 69.03 Mbps)
- Flow 3 ingress (mean 190.50 Mbps)
- Flow 3 egress (mean 190.55 Mbps)

Graph 2: Per-packet one-way delay (ms)
- Flow 1 (95th percentile 63.56 ms)
- Flow 2 (95th percentile 63.69 ms)
- Flow 3 (95th percentile 63.61 ms)
Run 8: Statistics of Copa

Start at: 2018-01-27 01:24:03
End at: 2018-01-27 01:24:33

# Below is generated by plot.py at 2018-01-27 05:27:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.00 Mbit/s
95th percentile per-packet one-way delay: 63.681 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 84.11 Mbit/s
95th percentile per-packet one-way delay: 63.693 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 70.79 Mbit/s
95th percentile per-packet one-way delay: 63.670 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 69.94 Mbit/s
95th percentile per-packet one-way delay: 63.645 ms
Loss rate: 1.66%
Run 9: Statistics of Copa

Start at: 2018-01-27 01:38:39
End at: 2018-01-27 01:39:09

# Below is generated by plot.py at 2018-01-27 05:27:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 145.96 Mbit/s
95th percentile per-packet one-way delay: 63.771 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 78.47 Mbit/s
95th percentile per-packet one-way delay: 63.739 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 63.54 Mbit/s
95th percentile per-packet one-way delay: 63.783 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 63.800 ms
Loss rate: 1.73%
Run 9: Report of Copa — Data Link

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

- Flow 1 ingress (mean 78.49 Mbit/s)
- Flow 1 egress (mean 78.47 Mbit/s)
- Flow 2 ingress (mean 63.61 Mbit/s)
- Flow 2 egress (mean 63.54 Mbit/s)
- Flow 3 ingress (mean 95.90 Mbit/s)
- Flow 3 egress (mean 95.75 Mbit/s)
Run 10: Statistics of Copa

Start at: 2018-01-27 01:53:22
End at: 2018-01-27 01:53:52

# Below is generated by plot.py at 2018-01-27 05:28:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.52 Mbit/s
95th percentile per-packet one-way delay: 63.655 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 88.24 Mbit/s
95th percentile per-packet one-way delay: 63.677 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 65.79 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 21.98 Mbit/s
95th percentile per-packet one-way delay: 62.750 ms
Loss rate: 1.95%
Run 10: Report of Copa — Data Link

![Graph showing Throughput (Mbps) vs Time (s) for different flows.]

Throughput (Mbps)

Time (s)

0 5 10 15 20 25

Flow 1 ingress (mean 88.23 Mbps)  Flow 2 ingress (mean 65.65 Mbps)  Flow 3 ingress (mean 22.87 Mbps)

Flow 1 egress (mean 88.24 Mbps)  Flow 2 egress (mean 65.79 Mbps)  Flow 3 egress (mean 21.98 Mbps)

![Graph showing Per-packet one-way delay (ms) vs Time (s) for different flows.]

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25

Flow 1 (95th percentile 63.68 ms)  Flow 2 (95th percentile 63.58 ms)  Flow 3 (95th percentile 62.75 ms)
Run 1: Statistics of Indigo-2-256

Start at: 2018-01-26 23:38:09
End at: 2018-01-26 23:38:39

# Below is generated by plot.py at 2018-01-27 05:29:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.28 Mbit/s
95th percentile per-packet one-way delay: 64.396 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 174.67 Mbit/s
95th percentile per-packet one-way delay: 64.138 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 153.84 Mbit/s
95th percentile per-packet one-way delay: 64.659 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 142.39 Mbit/s
95th percentile per-packet one-way delay: 64.632 ms
Loss rate: 1.46%
Run 1: Report of Indigo-2-256 — Data Link

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

Flow 1 ingress (mean 174.52 Mbit/s)  Flow 1 egress (mean 174.67 Mbit/s)
Flow 2 ingress (mean 153.59 Mbit/s)  Flow 2 egress (mean 153.84 Mbit/s)
Flow 3 ingress (mean 142.38 Mbit/s)  Flow 3 egress (mean 142.39 Mbit/s)
Run 2: Statistics of Indigo-2-256

Start at: 2018-01-26 23:52:54
End at: 2018-01-26 23:53:24

# Below is generated by plot.py at 2018-01-27 05:30:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.93 Mbit/s
95th percentile per-packet one-way delay: 64.508 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 171.83 Mbit/s
95th percentile per-packet one-way delay: 64.069 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 154.49 Mbit/s
95th percentile per-packet one-way delay: 64.971 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 141.85 Mbit/s
95th percentile per-packet one-way delay: 65.323 ms
Loss rate: 1.42%
Run 2: Report of Indigo-2-256 — Data Link

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

Throughput (Mbps):

- Flow 1 ingress (mean 171.78 Mbps)
- Flow 1 egress (mean 171.83 Mbps)
- Flow 2 ingress (mean 154.37 Mbps)
- Flow 2 egress (mean 154.49 Mbps)
- Flow 3 ingress (mean 142.03 Mbps)
- Flow 3 egress (mean 141.85 Mbps)

Round-trip delay (ms):

- Flow 1 (95th percentile 64.07 ms)
- Flow 2 (95th percentile 64.97 ms)
- Flow 3 (95th percentile 65.32 ms)
Run 3: Statistics of Indigo-2-256

Start at: 2018-01-27 00:07:24
End at: 2018-01-27 00:07:54

# Below is generated by plot.py at 2018-01-27 05:31:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.41 Mbit/s
95th percentile per-packet one-way delay: 64.246 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 174.36 Mbit/s
95th percentile per-packet one-way delay: 63.898 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 159.59 Mbit/s
95th percentile per-packet one-way delay: 64.566 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 139.95 Mbit/s
95th percentile per-packet one-way delay: 64.850 ms
Loss rate: 1.25%
Run 3: Report of Indigo-2-256 — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 174.27 Mbps)
  - Flow 1 egress (mean 174.36 Mbps)
  - Flow 2 ingress (mean 159.34 Mbps)
  - Flow 2 egress (mean 159.59 Mbps)
  - Flow 3 ingress (mean 139.87 Mbps)
  - Flow 3 egress (mean 139.95 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 63.90 ms)
  - Flow 2 (95th percentile 64.57 ms)
  - Flow 3 (95th percentile 64.85 ms)
Run 4: Statistics of Indigo-2-256

Start at: 2018-01-27 00:22:05
End at: 2018-01-27 00:22:35

# Below is generated by plot.py at 2018-01-27 05:32:17
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 331.32 Mbit/s
  95th percentile per-packet one-way delay: 63.791 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 175.24 Mbit/s
  95th percentile per-packet one-way delay: 63.722 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 165.16 Mbit/s
  95th percentile per-packet one-way delay: 64.123 ms
  Loss rate: 0.63%
-- Flow 3:
  Average throughput: 144.18 Mbit/s
  95th percentile per-packet one-way delay: 62.913 ms
  Loss rate: 1.42%
Run 4: Report of Indigo-2-256 — Data Link

![Graph showing throughput and per-packet round-trip time](image-url)

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 175.19 Mbps)
  - Flow 1 egress (mean 175.24 Mbps)
  - Flow 2 ingress (mean 165.37 Mbps)
  - Flow 2 egress (mean 165.16 Mbps)
  - Flow 3 ingress (mean 144.37 Mbps)
  - Flow 3 egress (mean 144.18 Mbps)

- **Per-packet round-trip time (ms)**
  - Flow 1 (95th percentile 63.72 ms)
  - Flow 2 (95th percentile 64.12 ms)
  - Flow 3 (95th percentile 62.91 ms)
Run 5: Statistics of Indigo-2-256

Start at: 2018-01-27 00:36:54
End at: 2018-01-27 00:37:24

# Below is generated by plot.py at 2018-01-27 05:32:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 337.06 Mbit/s
  95th percentile per-packet one-way delay: 64.436 ms
  Loss rate: 0.61%
-- Flow 1:
  Average throughput: 176.75 Mbit/s
  95th percentile per-packet one-way delay: 64.055 ms
  Loss rate: 0.39%
-- Flow 2:
  Average throughput: 166.75 Mbit/s
  95th percentile per-packet one-way delay: 64.857 ms
  Loss rate: 0.60%
-- Flow 3:
  Average throughput: 154.35 Mbit/s
  95th percentile per-packet one-way delay: 64.815 ms
  Loss rate: 1.44%
Run 5: Report of Indigo-2-256 — Data Link

![Graph showing throughput and per-packet round trip delay over time for Flow 1, 2, and 3.]

- Flow 1 ingress (mean 176.69 Mbit/s)
- Flow 1 egress (mean 176.75 Mbit/s)
- Flow 2 ingress (mean 166.71 Mbit/s)
- Flow 2 egress (mean 166.75 Mbit/s)
- Flow 3 ingress (mean 154.56 Mbit/s)
- Flow 3 egress (mean 154.35 Mbit/s)

![Graph showing per-packet round trip delay over time for Flow 1, 2, and 3.]

- Flow 1 (95th percentile 64.06 ms)
- Flow 2 (95th percentile 64.86 ms)
- Flow 3 (95th percentile 64.81 ms)
Run 6: Statistics of Indigo-2-256

Start at: 2018-01-27 00:51:43
End at: 2018-01-27 00:52:13

# Below is generated by plot.py at 2018-01-27 05:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 333.21 Mbit/s
95th percentile per-packet one-way delay: 63.924 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 176.55 Mbit/s
95th percentile per-packet one-way delay: 63.706 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 164.82 Mbit/s
95th percentile per-packet one-way delay: 64.191 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 147.44 Mbit/s
95th percentile per-packet one-way delay: 64.282 ms
Loss rate: 1.42%
Run 6: Report of Indigo-2-256 — Data Link
Run 7: Statistics of Indigo-2-256

Start at: 2018-01-27 01:06:34
End at: 2018-01-27 01:07:04

# Below is generated by plot.py at 2018-01-27 05:33:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 318.85 Mbit/s
  95th percentile per-packet one-way delay: 64.848 ms
  Loss rate: 0.63%
-- Flow 1:
  Average throughput: 170.54 Mbit/s
  95th percentile per-packet one-way delay: 64.492 ms
  Loss rate: 0.44%
-- Flow 2:
  Average throughput: 157.29 Mbit/s
  95th percentile per-packet one-way delay: 64.909 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 135.86 Mbit/s
  95th percentile per-packet one-way delay: 65.663 ms
  Loss rate: 1.41%
Run 7: Report of Indigo-2-256 — Data Link

![Graph of data link performance over time, showing throughput and per-packet one-way delay for different data flows.]
Run 8: Statistics of Indigo-2-256

Start at: 2018-01-27 01:20:56
End at: 2018-01-27 01:21:26

# Below is generated by plot.py at 2018-01-27 05:34:30
# Datalink statistics
-- Total of 3 flows:
    Average throughput: 342.81 Mbit/s
    95th percentile per-packet one-way delay: 66.554 ms
    Loss rate: 0.66%
-- Flow 1:
    Average throughput: 175.64 Mbit/s
    95th percentile per-packet one-way delay: 65.738 ms
    Loss rate: 0.43%
-- Flow 2:
    Average throughput: 177.25 Mbit/s
    95th percentile per-packet one-way delay: 66.959 ms
    Loss rate: 0.62%
-- Flow 3:
    Average throughput: 154.04 Mbit/s
    95th percentile per-packet one-way delay: 67.662 ms
    Loss rate: 1.54%
Run 8: Report of Indigo-2:256 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 175.65 Mbps)
Flow 1 egress (mean 175.64 Mbps)
Flow 2 ingress (mean 177.23 Mbps)
Flow 2 egress (mean 177.25 Mbps)
Flow 3 ingress (mean 154.40 Mbps)
Flow 3 egress (mean 154.04 Mbps)

Drop rate (%)

Time (s)

Flow 1 (95th percentile 65.74 ms)
Flow 2 (95th percentile 66.96 ms)
Flow 3 (95th percentile 67.66 ms)
Run 9: Statistics of Indigo-2-256

Start at: 2018-01-27 01:35:38
End at: 2018-01-27 01:36:08

# Below is generated by plot.py at 2018-01-27 05:35:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.78 Mbit/s
95th percentile per-packet one-way delay: 64.587 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 177.86 Mbit/s
95th percentile per-packet one-way delay: 64.192 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 171.79 Mbit/s
95th percentile per-packet one-way delay: 64.702 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 144.99 Mbit/s
95th percentile per-packet one-way delay: 65.914 ms
Loss rate: 1.53%
Run 9: Report of Indigo-2-256 — Data Link
Run 10: Statistics of Indigo-2-256

Start at: 2018-01-27 01:50:24
End at: 2018-01-27 01:50:54

# Below is generated by plot.py at 2018-01-27 05:36:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 324.03 Mbit/s
  95th percentile per-packet one-way delay: 64.214 ms
  Loss rate: 0.59%
  -- Flow 1:
    Average throughput: 169.83 Mbit/s
    95th percentile per-packet one-way delay: 63.861 ms
    Loss rate: 0.41%
  -- Flow 2:
    Average throughput: 165.77 Mbit/s
    95th percentile per-packet one-way delay: 64.611 ms
    Loss rate: 0.53%
  -- Flow 3:
    Average throughput: 136.68 Mbit/s
    95th percentile per-packet one-way delay: 64.599 ms
    Loss rate: 1.38%
Run 10: Report of Indigo-2-256 — Data Link

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

- Flow 1 ingress (mean 169.82 Mbit/s)
- Flow 1 egress (mean 169.83 Mbit/s)
- Flow 2 ingress (mean 165.59 Mbit/s)
- Flow 2 egress (mean 165.77 Mbit/s)
- Flow 3 ingress (mean 136.81 Mbit/s)
- Flow 3 egress (mean 136.68 Mbit/s)

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

- Flow 1 (95th percentile 63.86 ms)
- Flow 2 (95th percentile 64.41 ms)
- Flow 3 (95th percentile 64.60 ms)
Run 1: Statistics of Indigo-1-32

End at: 2018-01-26 23:39:45

# Below is generated by plot.py at 2018-01-27 05:37:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.80 Mbit/s
95th percentile per-packet one-way delay: 65.083 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 194.49 Mbit/s
95th percentile per-packet one-way delay: 64.816 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 178.42 Mbit/s
95th percentile per-packet one-way delay: 65.671 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 142.47 Mbit/s
95th percentile per-packet one-way delay: 65.019 ms
Loss rate: 1.35%
Run 1: Report of Indigo-1-32 — Data Link

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

- Flow 1 ingress (mean 194.30 Mbit/s)
- Flow 1 egress (mean 194.49 Mbit/s)
- Flow 2 ingress (mean 178.43 Mbit/s)
- Flow 2 egress (mean 178.42 Mbit/s)
- Flow 3 ingress (mean 142.54 Mbit/s)
- Flow 3 egress (mean 142.47 Mbit/s)

[Graph showing per-packet end-to-end delay over time for different flows.]

- Flow 1 (95th percentile 64.82 ms)
- Flow 2 (95th percentile 65.67 ms)
- Flow 3 (95th percentile 65.02 ms)
Run 2: Statistics of Indigo-1-32

End at: 2018-01-26 23:54:29

# Below is generated by plot.py at 2018-01-27 05:37:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 339.40 Mbit/s
95th percentile per-packet one-way delay: 64.624 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 181.53 Mbit/s
95th percentile per-packet one-way delay: 64.352 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 159.71 Mbit/s
95th percentile per-packet one-way delay: 64.719 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 142.91 Mbit/s
95th percentile per-packet one-way delay: 65.158 ms
Loss rate: 1.34%
Run 2: Report of Indigo-1-32 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 181.39 Mbps)
Flow 1 egress (mean 181.53 Mbps)
Flow 2 ingress (mean 159.66 Mbps)
Flow 2 egress (mean 159.71 Mbps)
Flow 3 ingress (mean 142.99 Mbps)
Flow 3 egress (mean 142.91 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 64.35 ms)
Flow 2 (95th percentile 64.72 ms)
Flow 3 (95th percentile 65.16 ms)
Run 3: Statistics of Indigo-1-32

Start at: 2018-01-27 00:08:29
End at: 2018-01-27 00:08:59

# Below is generated by plot.py at 2018-01-27 05:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.55 Mbit/s
95th percentile per-packet one-way delay: 64.361 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 182.13 Mbit/s
95th percentile per-packet one-way delay: 64.003 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 176.43 Mbit/s
95th percentile per-packet one-way delay: 64.477 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 151.01 Mbit/s
95th percentile per-packet one-way delay: 64.984 ms
Loss rate: 1.29%
Run 3: Report of Indigo-1-32 — Data Link

[Graph showing throughput and packet error rate over time for different flows.

Legend:
- Flow 1 ingress (mean 181.96 Mbit/s)
- Flow 1 egress (mean 182.13 Mbit/s)
- Flow 2 ingress (mean 176.43 Mbit/s)
- Flow 2 egress (mean 176.43 Mbit/s)
- Flow 3 ingress (mean 151.01 Mbit/s)
- Flow 3 egress (mean 151.01 Mbit/s)
Run 4: Statistics of Indigo-1-32

Start at: 2018-01-27 00:23:10
End at: 2018-01-27 00:23:40

# Below is generated by plot.py at 2018-01-27 05:39:03
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 351.98 Mbit/s
   95th percentile per-packet one-way delay: 63.826 ms
   Loss rate: 0.58%
-- Flow 1:
   Average throughput: 188.19 Mbit/s
   95th percentile per-packet one-way delay: 63.820 ms
   Loss rate: 0.42%
-- Flow 2:
   Average throughput: 174.45 Mbit/s
   95th percentile per-packet one-way delay: 63.894 ms
   Loss rate: 0.54%
-- Flow 3:
   Average throughput: 150.35 Mbit/s
   95th percentile per-packet one-way delay: 63.121 ms
   Loss rate: 1.30%
Run 4: Report of Indigo-1-32 — Data Link

[Graph showing throughput and per-packet one way delay over time for different flows.]
Run 5: Statistics of Indigo-1-32

Start at: 2018-01-27 00:37:59  
End at: 2018-01-27 00:38:29

# Below is generated by plot.py at 2018-01-27 05:39:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 354.21 Mbit/s
  95th percentile per-packet one-way delay: 64.993 ms
  Loss rate: 0.59%
-- Flow 1:
  Average throughput: 196.37 Mbit/s
  95th percentile per-packet one-way delay: 64.621 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 163.57 Mbit/s
  95th percentile per-packet one-way delay: 65.053 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 152.68 Mbit/s
  95th percentile per-packet one-way delay: 66.121 ms
  Loss rate: 1.49%
Run 5: Report of Indigo-1-32 — Data Link

Graph showing throughput and per-packet one-way delay over time for different flows.
Run 6: Statistics of Indigo-1-32

Start at: 2018-01-27 00:52:50
End at: 2018-01-27 00:53:20

# Below is generated by plot.py at 2018-01-27 05:40:54
# Datalink statistics
   -- Total of 3 flows:
      Average throughput: 364.82 Mbit/s
      95th percentile per-packet one-way delay: 64.371 ms
      Loss rate: 0.57%
   -- Flow 1:
      Average throughput: 197.93 Mbit/s
      95th percentile per-packet one-way delay: 64.134 ms
      Loss rate: 0.30%
   -- Flow 2:
      Average throughput: 176.85 Mbit/s
      95th percentile per-packet one-way delay: 64.683 ms
      Loss rate: 0.70%
   -- Flow 3:
      Average throughput: 153.98 Mbit/s
      95th percentile per-packet one-way delay: 64.646 ms
      Loss rate: 1.32%
Run 6: Report of Indigo-1-32 — Data Link

![Graph of throughput and packet error rate over time for different flows.](image-url)
Run 7: Statistics of Indigo-1-32

Start at: 2018-01-27 01:07:38
End at: 2018-01-27 01:08:08

# Below is generated by plot.py at 2018-01-27 05:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.08 Mbit/s
95th percentile per-packet one-way delay: 64.785 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 192.65 Mbit/s
95th percentile per-packet one-way delay: 64.435 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 176.80 Mbit/s
95th percentile per-packet one-way delay: 64.933 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 137.69 Mbit/s
95th percentile per-packet one-way delay: 65.425 ms
Loss rate: 1.47%
Run 7: Report of Indigo-1-32 — Data Link

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**Throughput (Mbps)**

- Blue dashed line: Flow 1 ingress (mean 192.45 Mbps)
- Blue solid line: Flow 1 egress (mean 192.65 Mbps)
- Green dashed line: Flow 2 ingress (mean 176.62 Mbps)
- Green solid line: Flow 2 egress (mean 176.88 Mbps)
- Red dashed line: Flow 3 ingress (mean 137.92 Mbps)
- Red solid line: Flow 3 egress (mean 137.69 Mbps)

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

- Blue line: Flow 1 (95th percentile 64.44 ms)
- Green line: Flow 2 (95th percentile 64.93 ms)
- Red line: Flow 3 (95th percentile 65.42 ms)
Run 8: Statistics of Indigo-1-32

Start at: 2018-01-27 01:22:02
End at: 2018-01-27 01:22:32

# Below is generated by plot.py at 2018-01-27 05:42:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.75 Mbit/s
95th percentile per-packet one-way delay: 64.225 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 191.13 Mbit/s
95th percentile per-packet one-way delay: 63.969 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 176.56 Mbit/s
95th percentile per-packet one-way delay: 64.354 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 135.70 Mbit/s
95th percentile per-packet one-way delay: 64.679 ms
Loss rate: 1.54%
Run 8: Report of Indigo-1-32 — Data Link

![Diagram of throughput and delay over time for different flows.]

- Flow 1 ingress (mean 191.17 Mbit/s)
- Flow 1 egress (mean 191.13 Mbit/s)
- Flow 2 ingress (mean 176.49 Mbit/s)
- Flow 2 egress (mean 176.56 Mbit/s)
- Flow 3 ingress (mean 136.69 Mbit/s)
- Flow 3 egress (mean 135.70 Mbit/s)

![Diagram of packet delay over time for different flows.]

- Flow 1 (95th percentile 63.97 ms)
- Flow 2 (95th percentile 64.35 ms)
- Flow 3 (95th percentile 64.68 ms)
Run 9: Statistics of Indigo-1-32

Start at: 2018-01-27 01:36:43
End at: 2018-01-27 01:37:13

# Below is generated by plot.py at 2018-01-27 05:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.11 Mbit/s
95th percentile per-packet one-way delay: 63.836 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 194.58 Mbit/s
95th percentile per-packet one-way delay: 63.488 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 169.83 Mbit/s
95th percentile per-packet one-way delay: 64.302 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 148.57 Mbit/s
95th percentile per-packet one-way delay: 64.681 ms
Loss rate: 1.25%
Run 9: Report of Indigo-1-32 — Data Link

![Graph 1](image1)

![Graph 2](image2)
Run 10: Statistics of Indigo-1-32

Start at: 2018-01-27 01:51:29
End at: 2018-01-27 01:51:59

# Below is generated by plot.py at 2018-01-27 05:43:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 349.54 Mbit/s
  95th percentile per-packet one-way delay: 64.872 ms
  Loss rate: 0.57%
-- Flow 1:
  Average throughput: 189.43 Mbit/s
  95th percentile per-packet one-way delay: 64.351 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 172.80 Mbit/s
  95th percentile per-packet one-way delay: 65.471 ms
  Loss rate: 0.58%
-- Flow 3:
  Average throughput: 141.05 Mbit/s
  95th percentile per-packet one-way delay: 65.743 ms
  Loss rate: 1.55%
Run 10: Report of Indigo-1-32 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 189.20 Mbps)
Flow 1 egress (mean 189.43 Mbps)
Flow 2 ingress (mean 172.70 Mbps)
Flow 2 egress (mean 172.88 Mbps)
Flow 3 ingress (mean 141.39 Mbps)
Flow 3 egress (mean 141.05 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 64.35 ms)
Flow 2 (95th percentile 65.47 ms)
Flow 3 (95th percentile 65.74 ms)

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Run 1: Statistics of Indigo-1-128

Start at: 2018-01-26 23:42:02
End at: 2018-01-26 23:42:32

# Below is generated by plot.py at 2018-01-27 05:44:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 341.78 Mbit/s
  95th percentile per-packet one-way delay: 65.001 ms
  Loss rate: 0.60%
-- Flow 1:
  Average throughput: 177.30 Mbit/s
  95th percentile per-packet one-way delay: 64.624 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 173.28 Mbit/s
  95th percentile per-packet one-way delay: 65.054 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 154.12 Mbit/s
  95th percentile per-packet one-way delay: 65.863 ms
  Loss rate: 1.44%
Run 1: Report of Indigo-1-128 — Data Link

![Throughput Graph](#)

![Delay Graph](#)

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Run 2: Statistics of Indigo-1-128

Start at: 2018-01-26 23:56:49
End at: 2018-01-26 23:57:19

# Below is generated by plot.py at 2018-01-27 05:45:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 350.93 Mbit/s
  95th percentile per-packet one-way delay: 63.395 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 192.34 Mbit/s
  95th percentile per-packet one-way delay: 63.416 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 173.47 Mbit/s
  95th percentile per-packet one-way delay: 63.339 ms
  Loss rate: 0.55%
-- Flow 3:
  Average throughput: 136.32 Mbit/s
  95th percentile per-packet one-way delay: 62.548 ms
  Loss rate: 1.32%
Run 2: Report of Indigo-1-128 — Data Link

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

- **Flow 1 ingress (mean 192.17 Mbps)**
- **Flow 1 egress (mean 192.34 Mbps)**
- **Flow 2 ingress (mean 173.32 Mbps)**
- **Flow 2 egress (mean 173.47 Mbps)**
- **Flow 3 ingress (mean 136.38 Mbps)**
- **Flow 3 egress (mean 136.32 Mbps)**
Run 3: Statistics of Indigo-1-128

Start at: 2018-01-27 00:11:15
End at: 2018-01-27 00:11:45

# Below is generated by plot.py at 2018-01-27 05:45:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 353.88 Mbit/s
95th percentile per-packet one-way delay: 63.852 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 191.13 Mbit/s
95th percentile per-packet one-way delay: 63.526 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 172.49 Mbit/s
95th percentile per-packet one-way delay: 64.212 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 151.35 Mbit/s
95th percentile per-packet one-way delay: 64.332 ms
Loss rate: 1.41%
Run 3: Report of Indigo-1-128 — Data Link

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

Throughput (Mbps) vs. Time (s) graph:
- Flow 1 ingress (mean 190.98 Mbps)
- Flow 1 egress (mean 191.13 Mbps)
- Flow 2 ingress (mean 172.37 Mbps)
- Flow 2 egress (mean 172.49 Mbps)
- Flow 3 ingress (mean 151.47 Mbps)
- Flow 3 egress (mean 151.35 Mbps)

Packet one-way delay (ms) vs. Time (s) graph:
- Flow 1 (95th percentile 63.53 ms)
- Flow 2 (95th percentile 64.21 ms)
- Flow 3 (95th percentile 64.33 ms)
Run 4: Statistics of Indigo-1-128

Start at: 2018-01-27 00:25:59
End at: 2018-01-27 00:26:29

# Below is generated by plot.py at 2018-01-27 05:46:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 345.01 Mbit/s
  95th percentile per-packet one-way delay: 64.719 ms
  Loss rate: 0.55%
-- Flow 1:
  Average throughput: 185.90 Mbit/s
  95th percentile per-packet one-way delay: 64.234 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 170.45 Mbit/s
  95th percentile per-packet one-way delay: 65.567 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 142.37 Mbit/s
  95th percentile per-packet one-way delay: 65.015 ms
  Loss rate: 1.12%
Run 5: Statistics of Indigo-1-128

Start at: 2018-01-27 00:40:54
End at: 2018-01-27 00:41:24

# Below is generated by plot.py at 2018-01-27 05:47:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 354.21 Mbit/s
  95th percentile per-packet one-way delay: 65.497 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 179.66 Mbit/s
  95th percentile per-packet one-way delay: 64.919 ms
  Loss rate: 0.45%
-- Flow 2:
  Average throughput: 170.68 Mbit/s
  95th percentile per-packet one-way delay: 65.737 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 149.76 Mbit/s
  95th percentile per-packet one-way delay: 66.510 ms
  Loss rate: 1.60%
Run 5: Report of Indigo-1-128 — Data Link
Run 6: Statistics of Indigo-1-128

Start at: 2018-01-27 00:55:40
End at: 2018-01-27 00:56:10

# Below is generated by plot.py at 2018-01-27 05:47:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.24 Mbit/s
95th percentile per-packet one-way delay: 64.509 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 199.20 Mbit/s
95th percentile per-packet one-way delay: 64.065 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 171.43 Mbit/s
95th percentile per-packet one-way delay: 65.394 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 146.75 Mbit/s
95th percentile per-packet one-way delay: 64.655 ms
Loss rate: 1.43%
Run 6: Report of Indigo-1-128 — Data Link

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

- Flow 1 ingress (mean 199.11 Mbit/s)
- Flow 1 egress (mean 199.20 Mbit/s)
- Flow 2 ingress (mean 171.42 Mbit/s)
- Flow 2 egress (mean 171.43 Mbit/s)
- Flow 3 ingress (mean 146.92 Mbit/s)
- Flow 3 egress (mean 146.75 Mbit/s)
Run 7: Statistics of Indigo-1-128

Start at: 2018-01-27 01:10:23
End at: 2018-01-27 01:10:53

# Below is generated by plot.py at 2018-01-27 05:48:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.73 Mbit/s
95th percentile per-packet one-way delay: 64.932 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 192.85 Mbit/s
95th percentile per-packet one-way delay: 64.212 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 165.74 Mbit/s
95th percentile per-packet one-way delay: 65.315 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 145.85 Mbit/s
95th percentile per-packet one-way delay: 66.961 ms
Loss rate: 1.37%
Run 7: Report of Indigo-1-128 — Data Link

![Graph of throughput and packet delay over time for different flows.](image-url)
Run 8: Statistics of Indigo-1-128

Start at: 2018-01-27 01:24:59
End at: 2018-01-27 01:25:29

# Below is generated by plot.py at 2018-01-27 05:48:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 355.48 Mbit/s
  95th percentile per-packet one-way delay: 65.443 ms
  Loss rate: 0.55%
-- Flow 1:
  Average throughput: 188.81 Mbit/s
  95th percentile per-packet one-way delay: 64.887 ms
  Loss rate: 0.31%
-- Flow 2:
  Average throughput: 179.31 Mbit/s
  95th percentile per-packet one-way delay: 65.668 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 149.78 Mbit/s
  95th percentile per-packet one-way delay: 66.160 ms
  Loss rate: 1.54%
Run 8: Report of Indigo-1-128 — Data Link

![Graph 1: Throughput (Mbps)]

- **Flow 1 ingress (mean 188.61 Mbps)**
- **Flow 1 egress (mean 188.81 Mbps)**
- **Flow 2 ingress (mean 179.66 Mbps)**
- **Flow 2 egress (mean 179.31 Mbps)**
- **Flow 3 ingress (mean 156.12 Mbps)**
- **Flow 3 egress (mean 149.78 Mbps)**

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

- **Flow 1 (95th percentile 64.89 ms)**
- **Flow 2 (95th percentile 65.67 ms)**
- **Flow 3 (95th percentile 66.16 ms)**
Run 9: Statistics of Indigo-1-128

Start at: 2018-01-27 01:39:34
End at: 2018-01-27 01:40:04

# Below is generated by plot.py at 2018-01-27 05:48:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.52 Mbit/s
95th percentile per-packet one-way delay: 64.695 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 203.06 Mbit/s
95th percentile per-packet one-way delay: 64.368 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 171.59 Mbit/s
95th percentile per-packet one-way delay: 65.104 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 145.54 Mbit/s
95th percentile per-packet one-way delay: 65.034 ms
Loss rate: 1.50%
Run 9: Report of Indigo-1-128 — Data Link

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

Legend:
- Flow 1 ingress (mean 202.81 Mbit/s)
- Flow 1 egress (mean 203.06 Mbit/s)
- Flow 2 ingress (mean 171.47 Mbit/s)
- Flow 2 egress (mean 171.59 Mbit/s)
- Flow 3 ingress (mean 145.79 Mbit/s)
- Flow 3 egress (mean 145.54 Mbit/s)
Run 10: Statistics of Indigo-1-128

Start at: 2018-01-27 01:54:17
End at: 2018-01-27 01:54:47

# Below is generated by plot.py at 2018-01-27 05:48:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 357.21 Mbit/s
  95th percentile per-packet one-way delay: 63.548 ms
  Loss rate: 0.63%
-- Flow 1:
  Average throughput: 196.41 Mbit/s
  95th percentile per-packet one-way delay: 62.715 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 167.55 Mbit/s
  95th percentile per-packet one-way delay: 63.973 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 155.64 Mbit/s
  95th percentile per-packet one-way delay: 65.130 ms
  Loss rate: 1.53%
Run 10: Report of Indigo-1-128 — Data Link

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

- Flow 1 ingress (mean 196.33 Mbit/s)
- Flow 1 egress (mean 196.41 Mbit/s)
- Flow 2 ingress (mean 167.59 Mbit/s)
- Flow 2 egress (mean 167.55 Mbit/s)
- Flow 3 ingress (mean 156.03 Mbit/s)
- Flow 3 egress (mean 155.64 Mbit/s)