Pantheon Report

Data path: GCE London Ethernet (remote) → GCE Sydney 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 @ f23294ec38436c9f802847d477a41b73433ec76e6
third_party/calibrated_koho @ 3cb73c0d1c03322cd5e46ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e2eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4e4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d5838dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528ea5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303ae82ea0806928eac4f1083ad681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b17e0aab4a906ce6b7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
third_party/pcc @ 1afcc958fa0d66d18b623c091a55f8ec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3c4f24
third_party/scream @ c3370fd7bd17265a79aeab34e016ad23f5965885
third_party/sourdough @ f1a4bffef749737437f61b1aeab3b267cde681
third_party/sprout @ 6f0e6e0889d90166a9f023d375e3ee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutb2.cc
  M src/network/sproutcomm.cc
third_party/verus @ d4b447ea74c6c60a261149af262956293f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 423cbca3e889e8d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834e25f42
test from GCE London Ethernet to GCE Sydney 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>70.67</td>
<td>68.70</td>
<td>61.39</td>
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<td>TCP Cubic</td>
<td>10</td>
<td>35.17</td>
<td>42.01</td>
<td>41.93</td>
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<td>LEDBAT</td>
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<td>2.20</td>
<td>1.26</td>
<td>0.95</td>
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<td>377.15</td>
<td>80.63</td>
<td>56.70</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>0.22</td>
<td>0.22</td>
<td>0.21</td>
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<tr>
<td>WebRTC media</td>
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<td>1.23</td>
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<td>0.42</td>
<td>0.34</td>
<td>0.44</td>
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<td>108.00</td>
<td>87.81</td>
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<tr>
<td>TCP Vegas</td>
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<td>16.28</td>
<td>37.54</td>
<td>19.56</td>
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<td>Verus</td>
<td>10</td>
<td>133.55</td>
<td>84.72</td>
<td>64.30</td>
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<td>Copa</td>
<td>10</td>
<td>45.06</td>
<td>29.64</td>
<td>26.46</td>
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<tr>
<td>Indigo-2-256</td>
<td>10</td>
<td>125.90</td>
<td>106.69</td>
<td>104.30</td>
</tr>
<tr>
<td>Indigo-1-32</td>
<td>10</td>
<td>139.29</td>
<td>137.56</td>
<td>115.88</td>
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<tr>
<td>Indigo-1-128</td>
<td>10</td>
<td>128.37</td>
<td>125.81</td>
<td>105.89</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

End at: 2018-01-26 23:33:53

# Below is generated by plot.py at 2018-01-27 05:03:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.01 Mbit/s
95th percentile per-packet one-way delay: 136.008 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 70.07 Mbit/s
95th percentile per-packet one-way delay: 136.005 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 71.10 Mbit/s
95th percentile per-packet one-way delay: 136.023 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 135.974 ms
Loss rate: 3.38%
Run 1: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet one-way delay](image-url)
Run 2: Statistics of TCP BBR

Start at: 2018-01-26 23:49:44
End at: 2018-01-26 23:50:14

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 139.14 Mbit/s
  95th percentile per-packet one-way delay: 162.496 ms
  Loss rate: 1.59%
-- Flow 1:
  Average throughput: 72.69 Mbit/s
  95th percentile per-packet one-way delay: 162.417 ms
  Loss rate: 1.10%
-- Flow 2:
  Average throughput: 69.56 Mbit/s
  95th percentile per-packet one-way delay: 162.504 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 62.43 Mbit/s
  95th percentile per-packet one-way delay: 162.563 ms
  Loss rate: 3.41%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Start at: 2018-01-27 00:05:21
End at: 2018-01-27 00:05:51

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.46 Mbit/s
95th percentile per-packet one-way delay: 162.668 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 70.56 Mbit/s
95th percentile per-packet one-way delay: 162.740 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 72.57 Mbit/s
95th percentile per-packet one-way delay: 136.088 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 136.104 ms
Loss rate: 3.35%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2018-01-27 00:21:14
End at: 2018-01-27 00:21:44

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.55 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 70.44 Mbit/s
95th percentile per-packet one-way delay: 136.412 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 68.54 Mbit/s
95th percentile per-packet one-way delay: 136.437 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 63.53 Mbit/s
95th percentile per-packet one-way delay: 136.495 ms
Loss rate: 3.36%
Run 4: Report of TCP BBR — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 70.75 Mbps)
- Flow 1 egress (mean 70.44 Mbps)
- Flow 2 ingress (mean 68.82 Mbps)
- Flow 2 egress (mean 68.54 Mbps)
- Flow 3 ingress (mean 63.93 Mbps)
- Flow 3 egress (mean 63.53 Mbps)

**Delay (ms):**
- Flow 1 (95th percentile 136.41 ms)
- Flow 2 (95th percentile 136.44 ms)
- Flow 3 (95th percentile 136.50 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-01-27 00:37:41
End at: 2018-01-27 00:38:11

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 138.96 Mbit/s
  95th percentile per-packet one-way delay: 136.496 ms
  Loss rate: 1.56%
-- Flow 1:
  Average throughput: 71.93 Mbit/s
  95th percentile per-packet one-way delay: 136.465 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 70.59 Mbit/s
  95th percentile per-packet one-way delay: 136.526 ms
  Loss rate: 1.60%
-- Flow 3:
  Average throughput: 62.26 Mbit/s
  95th percentile per-packet one-way delay: 136.517 ms
  Loss rate: 3.44%
Run 5: Report of TCP BBR — Data Link
Run 6: Statistics of TCP BBR

Start at: 2018-01-27 00:54:22
End at: 2018-01-27 00:54:52

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 138.90 Mbit/s
  95th percentile per-packet one-way delay: 136.557 ms
  Loss rate: 1.59%
-- Flow 1:
  Average throughput: 71.90 Mbit/s
  95th percentile per-packet one-way delay: 136.551 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 70.06 Mbit/s
  95th percentile per-packet one-way delay: 136.556 ms
  Loss rate: 1.71%
-- Flow 3:
  Average throughput: 63.49 Mbit/s
  95th percentile per-packet one-way delay: 136.580 ms
  Loss rate: 3.38%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-01-27 01:10:43
End at: 2018-01-27 01:11:13

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.61 Mbit/s
95th percentile per-packet one-way delay: 136.715 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 73.01 Mbit/s
95th percentile per-packet one-way delay: 136.693 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 69.46 Mbit/s
95th percentile per-packet one-way delay: 136.680 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 136.854 ms
Loss rate: 3.77%
Run 7: Report of TCP BBR — Data Link

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### Throughput (Mbps)

- **Flow 1 ingress (mean 73.06 Mbps)**
- **Flow 1 egress (mean 73.01 Mbps)**
- **Flow 2 ingress (mean 69.59 Mbps)**
- **Flow 2 egress (mean 69.46 Mbps)**
- **Flow 3 ingress (mean 64.39 Mbps)**
- **Flow 3 egress (mean 63.69 Mbps)**

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

- **Flow 1 (95th percentile 136.69 ms)**
- **Flow 2 (95th percentile 136.68 ms)**
- **Flow 3 (95th percentile 136.85 ms)**
Run 8: Statistics of TCP BBR

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

# Below is generated by plot.py at 2018-01-27 05:03:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.59 Mbit/s
95th percentile per-packet one-way delay: 162.908 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 68.61 Mbit/s
95th percentile per-packet one-way delay: 162.860 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 67.87 Mbit/s
95th percentile per-packet one-way delay: 162.898 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 58.65 Mbit/s
95th percentile per-packet one-way delay: 163.003 ms
Loss rate: 3.65%
Run 8: Report of TCP BBR — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 68.77 Mbit/s) — Flow 1 egress (mean 68.61 Mbit/s)
Flow 2 ingress (mean 68.63 Mbit/s) — Flow 2 egress (mean 67.87 Mbit/s)
Flow 3 ingress (mean 59.02 Mbit/s) — Flow 3 egress (mean 58.65 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 162.96 ms) — Flow 2 (95th percentile 162.90 ms) — Flow 3 (95th percentile 163.00 ms)
Run 9: Statistics of TCP BBR

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 05:05:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.20 Mbit/s
95th percentile per-packet one-way delay: 162.887 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 68.96 Mbit/s
95th percentile per-packet one-way delay: 162.860 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 64.95 Mbit/s
95th percentile per-packet one-way delay: 162.890 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 56.16 Mbit/s
95th percentile per-packet one-way delay: 162.942 ms
Loss rate: 4.67%
Run 9: Report of TCP BBR — Data Link

![Graph showing network data](image)

**Throughput (Mbps)**

**Time (s)**

- **Flow 1 ingress (mean 69.16 Mbps)**
- **Flow 1 egress (mean 68.96 Mbps)**
- **Flow 2 ingress (mean 65.31 Mbps)**
- **Flow 2 egress (mean 64.95 Mbps)**
- **Flow 3 ingress (mean 57.37 Mbps)**
- **Flow 3 egress (mean 56.16 Mbps)**

![Graph showing packet delay](image)

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

**Time (s)**

- **Flow 1 (95th percentile 162.96 ms)**
- **Flow 2 (95th percentile 162.89 ms)**
- **Flow 3 (95th percentile 162.94 ms)**
Run 10: Statistics of TCP BBR

Start at: 2018-01-27 01:58:12
End at: 2018-01-27 01:58:42

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 127.74 Mbit/s
95th percentile per-packet one-way delay: 163.372 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 68.49 Mbit/s
95th percentile per-packet one-way delay: 163.314 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 62.25 Mbit/s
95th percentile per-packet one-way delay: 163.434 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 163.386 ms
Loss rate: 3.84%
Run 10: Report of TCP BBR — Data Link

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

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

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Run 1: Statistics of TCP Cubic

End at: 2018-01-26 23:43:05

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 101.04 Mbit/s
  95th percentile per-packet one-way delay: 146.225 ms
  Loss rate: 1.55%
-- Flow 1:
  Average throughput: 47.48 Mbit/s
  95th percentile per-packet one-way delay: 146.125 ms
  Loss rate: 0.70%
-- Flow 2:
  Average throughput: 52.92 Mbit/s
  95th percentile per-packet one-way delay: 146.484 ms
  Loss rate: 1.30%
-- Flow 3:
  Average throughput: 56.83 Mbit/s
  95th percentile per-packet one-way delay: 145.745 ms
  Loss rate: 4.11%
Run 1: Report of TCP Cubic — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress** (mean 47.38 Mbps)
- **Flow 1 egress** (mean 47.48 Mbps)
- **Flow 2 ingress** (mean 52.88 Mbps)
- **Flow 2 egress** (mean 52.92 Mbps)
- **Flow 3 ingress** (mean 57.73 Mbps)
- **Flow 3 egress** (mean 56.83 Mbps)

**Round-trip time (ms)**

- **Flow 1** (95th percentile 146.12 ms)
- **Flow 2** (95th percentile 146.48 ms)
- **Flow 3** (95th percentile 145.75 ms)
Run 2: Statistics of TCP Cubic

Start at: 2018-01-26 23:58:21
End at: 2018-01-26 23:58:51

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 168.697 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 23.61 Mbit/s
95th percentile per-packet one-way delay: 169.100 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 35.19 Mbit/s
95th percentile per-packet one-way delay: 167.941 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 170.475 ms
Loss rate: 12.36%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Start at: 2018-01-27 00:13:59
End at: 2018-01-27 00:14:29

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 60.03 Mbit/s
  95th percentile per-packet one-way delay: 170.830 ms
  Loss rate: 2.44%
-- Flow 1:
  Average throughput: 41.03 Mbit/s
  95th percentile per-packet one-way delay: 171.240 ms
  Loss rate: 1.07%
-- Flow 2:
  Average throughput: 9.88 Mbit/s
  95th percentile per-packet one-way delay: 163.949 ms
  Loss rate: 6.25%
-- Flow 3:
  Average throughput: 38.35 Mbit/s
  95th percentile per-packet one-way delay: 169.818 ms
  Loss rate: 4.76%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2018-01-27 00:30:24
End at: 2018-01-27 00:30:54

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 75.36 Mbit/s
  95th percentile per-packet one-way delay: 143.589 ms
  Loss rate: 2.10%
-- Flow 1:
  Average throughput: 41.04 Mbit/s
  95th percentile per-packet one-way delay: 142.642 ms
  Loss rate: 2.09%
-- Flow 2:
  Average throughput: 35.43 Mbit/s
  95th percentile per-packet one-way delay: 143.946 ms
  Loss rate: 1.05%
-- Flow 3:
  Average throughput: 33.30 Mbit/s
  95th percentile per-packet one-way delay: 144.906 ms
  Loss rate: 4.33%
Run 4: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress** (mean 41.60 Mbit/s)
- **Flow 1 egress** (mean 41.04 Mbit/s)
- **Flow 2 ingress** (mean 35.31 Mbit/s)
- **Flow 2 egress** (mean 35.43 Mbit/s)
- **Flow 3 ingress** (mean 33.85 Mbit/s)
- **Flow 3 egress** (mean 33.30 Mbit/s)
Run 5: Statistics of TCP Cubic

Start at: 2018-01-27 00:46:59
End at: 2018-01-27 00:47:29

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 108.32 Mbit/s
  95th percentile per-packet one-way delay: 147.507 ms
  Loss rate: 1.20%
 -- Flow 1:
  Average throughput: 48.61 Mbit/s
  95th percentile per-packet one-way delay: 147.291 ms
  Loss rate: 1.64%
 -- Flow 2:
  Average throughput: 78.69 Mbit/s
  95th percentile per-packet one-way delay: 146.554 ms
  Loss rate: 0.43%
 -- Flow 3:
  Average throughput: 23.65 Mbit/s
  95th percentile per-packet one-way delay: 153.454 ms
  Loss rate: 3.55%
Run 5: Report of TCP Cubic — Data Link

![Graph showing throughput and delay over time for different flows.](image-url)
Run 6: Statistics of TCP Cubic

Start at: 2018-01-27 01:03:25
End at: 2018-01-27 01:03:55

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 53.99 Mbit/s
  95th percentile per-packet one-way delay: 145.595 ms
  Loss rate: 2.69%
-- Flow 1:
  Average throughput: 11.75 Mbit/s
  95th percentile per-packet one-way delay: 137.620 ms
  Loss rate: 2.82%
-- Flow 2:
  Average throughput: 37.26 Mbit/s
  95th percentile per-packet one-way delay: 143.921 ms
  Loss rate: 3.14%
-- Flow 3:
  Average throughput: 55.26 Mbit/s
  95th percentile per-packet one-way delay: 149.455 ms
  Loss rate: 1.97%
Run 6: Report of TCP Cubic — Data Link

![Graphs showing throughput and per-packet one-way delay](image-url)
Run 7: Statistics of TCP Cubic

Start at: 2018-01-27 01:19:26
End at: 2018-01-27 01:19:56

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.44 Mbit/s
95th percentile per-packet one-way delay: 139.639 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 31.06 Mbit/s
95th percentile per-packet one-way delay: 138.342 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 139.496 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 31.72 Mbit/s
95th percentile per-packet one-way delay: 143.495 ms
Loss rate: 3.53%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

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 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 52.52 Mbit/s
  95th percentile per-packet one-way delay: 163.055 ms
  Loss rate: 3.26%
-- Flow 1:
  Average throughput: 22.13 Mbit/s
  95th percentile per-packet one-way delay: 163.308 ms
  Loss rate: 2.57%
-- Flow 2:
  Average throughput: 27.60 Mbit/s
  95th percentile per-packet one-way delay: 142.348 ms
  Loss rate: 3.93%
-- Flow 3:
  Average throughput: 37.32 Mbit/s
  95th percentile per-packet one-way delay: 145.299 ms
  Loss rate: 3.49%
Run 8: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 22.50 Mbit/s)**
- **Flow 1 egress (mean 22.13 Mbit/s)**
- **Flow 2 ingress (mean 28.33 Mbit/s)**
- **Flow 2 egress (mean 27.60 Mbit/s)**
- **Flow 3 ingress (mean 37.60 Mbit/s)**
- **Flow 3 egress (mean 37.32 Mbit/s)**

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

- **Flow 1 (95th percentile 163.31 ms)**
- **Flow 2 (95th percentile 142.35 ms)**
- **Flow 3 (95th percentile 145.30 ms)**
Run 9: Statistics of TCP Cubic

Start at: 2018-01-27 01:51:08
End at: 2018-01-27 01:51:38

# Below is generated by plot.py at 2018-01-27 05:05:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 60.41 Mbit/s
  95th percentile per-packet one-way delay: 163.330 ms
  Loss rate: 2.42%
-- Flow 1:
  Average throughput: 28.03 Mbit/s
  95th percentile per-packet one-way delay: 163.851 ms
  Loss rate: 1.33%
-- Flow 2:
  Average throughput: 14.56 Mbit/s
  95th percentile per-packet one-way delay: 145.790 ms
  Loss rate: 2.83%
-- Flow 3:
  Average throughput: 71.42 Mbit/s
  95th percentile per-packet one-way delay: 148.523 ms
  Loss rate: 3.55%
Run 9: Report of TCP Cubic — Data Link
Run 10: Statistics of TCP Cubic

Start at: 2018-01-27 02:06:22
End at: 2018-01-27 02:06:52

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.26 Mbit/s
95th percentile per-packet one-way delay: 146.383 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 146.645 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 79.99 Mbit/s
95th percentile per-packet one-way delay: 146.276 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 70.38 Mbit/s
95th percentile per-packet one-way delay: 144.597 ms
Loss rate: 3.59%
Run 10: Report of TCP Cubic — Data Link

![Throughput Graph]

- **Flow 1 ingress (mean 56.84 Mbit/s)**
- **Flow 1 egress (mean 56.96 Mbit/s)**
- **Flow 2 ingress (mean 80.15 Mbit/s)**
- **Flow 2 egress (mean 79.99 Mbit/s)**
- **Flow 3 ingress (mean 70.96 Mbit/s)**
- **Flow 3 egress (mean 70.36 Mbit/s)**

![Per-packet one-way delay Graph]

- **Flow 1 (95th percentile 146.65 ms)**
- **Flow 2 (95th percentile 146.28 ms)**
- **Flow 3 (95th percentile 144.60 ms)**
Run 1: Statistics of LEDBAT

End at: 2018-01-26 23:48:34

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 163.023 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 162.967 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 163.084 ms
Loss rate: 3.87%
-- Flow 3:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 162.962 ms
Loss rate: 6.14%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2018-01-27 00:03:41
End at: 2018-01-27 00:04:11
Run 2: Report of LEDBAT — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 0.60 Mbps)
  - Flow 1 egress (mean 0.58 Mbps)
  - Flow 2 ingress (mean 1.95 Mbps)
  - Flow 2 egress (mean 1.92 Mbps)
  - Flow 3 ingress (mean 0.86 Mbps)
  - Flow 3 egress (mean 0.83 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 163.00 ms)
  - Flow 2 (95th percentile 163.39 ms)
  - Flow 3 (95th percentile 164.64 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-01-27 00:19:34
End at: 2018-01-27 00:20:04

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.76 Mbit/s
  95th percentile per-packet one-way delay: 136.900 ms
  Loss rate: 2.11%
-- Flow 1:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 136.956 ms
  Loss rate: 1.58%
-- Flow 2:
  Average throughput: 1.12 Mbit/s
  95th percentile per-packet one-way delay: 137.076 ms
  Loss rate: 0.81%
-- Flow 3:
  Average throughput: 1.52 Mbit/s
  95th percentile per-packet one-way delay: 136.543 ms
  Loss rate: 5.54%
Run 3: Report of LEDBAT — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.54 Mbit/s)
Flow 1 egress (mean 1.53 Mbit/s)
Flow 2 ingress (mean 1.11 Mbit/s)
Flow 2 egress (mean 1.12 Mbit/s)
Flow 3 ingress (mean 1.57 Mbit/s)
Flow 3 egress (mean 1.52 Mbit/s)

Round-trip one way delay (ms)

Time (s)

Flow 1 (95th percentile 136.96 ms)
Flow 2 (95th percentile 137.08 ms)
Flow 3 (95th percentile 136.54 ms)
Run 4: Statistics of LEDBAT

Start at: 2018-01-27 00:36:01
End at: 2018-01-27 00:36:31

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.58 Mbit/s
  95th percentile per-packet one-way delay: 136.707 ms
  Loss rate: 3.15%
-- Flow 1:
  Average throughput: 1.58 Mbit/s
  95th percentile per-packet one-way delay: 136.759 ms
  Loss rate: 2.97%
-- Flow 2:
  Average throughput: 1.02 Mbit/s
  95th percentile per-packet one-way delay: 136.469 ms
  Loss rate: 3.22%
-- Flow 3:
  Average throughput: 1.00 Mbit/s
  95th percentile per-packet one-way delay: 136.651 ms
  Loss rate: 3.90%
Run 4: Report of LEDBAT — Data Link

![Graph 1: Throughput](image1)

![Graph 2: Packet Delay](image2)
Run 5: Statistics of LEDBAT

Start at: 2018-01-27 00:52:41
End at: 2018-01-27 00:53:11

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 2.63 Mbit/s
   95th percentile per-packet one-way delay: 137.178 ms
   Loss rate: 1.47%
   -- Flow 1:
   Average throughput: 2.31 Mbit/s
   95th percentile per-packet one-way delay: 137.216 ms
   Loss rate: 0.92%
   -- Flow 2:
   Average throughput: 0.40 Mbit/s
   95th percentile per-packet one-way delay: 136.787 ms
   Loss rate: 5.74%
   -- Flow 3:
   Average throughput: 0.22 Mbit/s
   95th percentile per-packet one-way delay: 136.839 ms
   Loss rate: 2.63%
Run 5: Report of LEDBAT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 2.31 Mbit/s) — Flow 1 egress (mean 2.31 Mbit/s)
Flow 2 ingress (mean 0.41 Mbit/s) — Flow 2 egress (mean 0.40 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) — Flow 3 egress (mean 0.22 Mbit/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 137.22 ms) — Flow 2 (95th percentile 136.79 ms) — Flow 3 (95th percentile 136.84 ms)
Run 6: Statistics of LEDBAT

Start at: 2018-01-27 01:09:02
End at: 2018-01-27 01:09:32

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 5.16 Mbit/s
  95th percentile per-packet one-way delay: 137.517 ms
  Loss rate: 1.62%
-- Flow 1:
  Average throughput: 3.89 Mbit/s
  95th percentile per-packet one-way delay: 137.555 ms
  Loss rate: 1.45%
-- Flow 2:
  Average throughput: 1.36 Mbit/s
  95th percentile per-packet one-way delay: 137.208 ms
  Loss rate: 0.57%
-- Flow 3:
  Average throughput: 1.17 Mbit/s
  95th percentile per-packet one-way delay: 137.153 ms
  Loss rate: 5.66%
Run 6: Report of LEDBAT — Data Link

![Graph showing throughput over time for different flows with 95th percentile delays indicated.]

- Flow 1 ingress (mean 3.91 Mbit/s)
- Flow 1 egress (mean 3.89 Mbit/s)
- Flow 2 ingress (mean 1.35 Mbit/s)
- Flow 2 egress (mean 1.36 Mbit/s)
- Flow 3 ingress (mean 1.20 Mbit/s)
- Flow 3 egress (mean 1.17 Mbit/s)

![Graph showing one-way delay for different flows with 95th percentile delays indicated.]

- Flow 1 (95th percentile 137.56 ms)
- Flow 2 (95th percentile 137.21 ms)
- Flow 3 (95th percentile 137.15 ms)
Run 7: Statistics of LEDBAT

Start at: 2018-01-27 01:24:49
End at: 2018-01-27 01:25:19
Run 7: Report of LEDBAT — Data Link
Run 8: Statistics of LEDBAT

Start at: 2018-01-27 01:41:05
End at: 2018-01-27 01:41:35
Run 8: Report of LEDBAT — Data Link

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

- Throughput (Mbps):
  - Flow 1 ingress (mean 0.88 Mbit/s)
  - Flow 1 egress (mean 0.87 Mbit/s)
  - Flow 2 ingress (mean 2.59 Mbit/s)
  - Flow 2 egress (mean 2.55 Mbit/s)
  - Flow 3 ingress (mean 1.30 Mbit/s)
  - Flow 3 egress (mean 1.29 Mbit/s)

- Latency (ms):
  - Flow 1 (95th percentile 163.22 ms)
  - Flow 2 (95th percentile 163.06 ms)
  - Flow 3 (95th percentile 137.31 ms)
Run 9: Statistics of LEDBAT

Start at: 2018-01-27 01:56:32
End at: 2018-01-27 01:57:02
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-01-27 02:11:53
End at: 2018-01-27 02:12:23

# Below is generated by plot.py at 2018-01-27 05:06:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 163.587 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 163.702 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 163.432 ms
Loss rate: 3.09%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 137.974 ms
Loss rate: 2.58%
Run 10: Report of LEDBAT — Data Link

![Throughput vs Time](image1)

![Packet Delay vs Time](image2)
Run 1: Statistics of PCC

Start at: 2018-01-26 23:34:22
End at: 2018-01-26 23:34:52

# Below is generated by plot.py at 2018-01-27 05:15:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 569.94 Mbit/s
  95th percentile per-packet one-way delay: 246.664 ms
  Loss rate: 2.87%
-- Flow 1:
  Average throughput: 517.62 Mbit/s
  95th percentile per-packet one-way delay: 246.599 ms
  Loss rate: 2.85%
-- Flow 2:
  Average throughput: 63.36 Mbit/s
  95th percentile per-packet one-way delay: 246.206 ms
  Loss rate: 2.44%
-- Flow 3:
  Average throughput: 32.58 Mbit/s
  95th percentile per-packet one-way delay: 248.212 ms
  Loss rate: 5.39%
Run 1: Report of PCC — Data Link

![Graph of throughput and packet delay over time for Run 1 with data link connections.]

- Flow 1 ingress (mean 527.92 Mbit/s)
- Flow 1 egress (mean 517.62 Mbit/s)
- Flow 2 ingress (mean 64.06 Mbit/s)
- Flow 2 egress (mean 63.36 Mbit/s)
- Flow 3 ingress (mean 33.45 Mbit/s)
- Flow 3 egress (mean 32.58 Mbit/s)
Run 2: Statistics of PCC

Start at: 2018-01-26 23:50:43
End at: 2018-01-26 23:51:13

# Below is generated by plot.py at 2018-01-27 05:15:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.13 Mbit/s
95th percentile per-packet one-way delay: 275.669 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 463.37 Mbit/s
95th percentile per-packet one-way delay: 275.898 ms
Loss rate: 3.61%
-- Flow 2:
Average throughput: 130.43 Mbit/s
95th percentile per-packet one-way delay: 267.576 ms
Loss rate: 3.69%
-- Flow 3:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 173.726 ms
Loss rate: 2.71%
Run 2: Report of PCC — Data Link
Run 3: Statistics of PCC

Start at: 2018-01-27 00:06:19
End at: 2018-01-27 00:06:49

# Below is generated by plot.py at 2018-01-27 05:15:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 51.13 Mbit/s
  95th percentile per-packet one-way delay: 162.541 ms
  Loss rate: 2.83%
-- Flow 1:
  Average throughput: 4.86 Mbit/s
  95th percentile per-packet one-way delay: 162.556 ms
  Loss rate: 1.10%
-- Flow 2:
  Average throughput: 8.67 Mbit/s
  95th percentile per-packet one-way delay: 162.543 ms
  Loss rate: 1.66%
-- Flow 3:
  Average throughput: 125.39 Mbit/s
  95th percentile per-packet one-way delay: 162.534 ms
  Loss rate: 3.19%
Run 3: Report of PCC — Data Link

[Graph showing throughput and packet one-way delay over time for Flow 1, Flow 2, and Flow 3.]
Run 4: Statistics of PCC

Start at: 2018-01-27 00:22:12
End at: 2018-01-27 00:22:42

# Below is generated by plot.py at 2018-01-27 05:15:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.18 Mbit/s
95th percentile per-packet one-way delay: 277.018 ms
Loss rate: 5.59%
-- Flow 1:
Average throughput: 448.97 Mbit/s
95th percentile per-packet one-way delay: 276.859 ms
Loss rate: 5.52%
-- Flow 2:
Average throughput: 121.81 Mbit/s
95th percentile per-packet one-way delay: 278.057 ms
Loss rate: 5.96%
-- Flow 3:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 278.927 ms
Loss rate: 7.64%
Run 4: Report of PCC — Data Link

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

Legend for the throughput graph:
- Flow 1 ingress (mean 470.87 Mb/s)
- Flow 1 egress (mean 448.97 Mb/s)
- Flow 2 ingress (mean 127.74 Mb/s)
- Flow 2 egress (mean 122.83 Mb/s)
- Flow 3 ingress (mean 2.20 Mb/s)
- Flow 3 egress (mean 2.12 Mb/s)

Legend for the packet delay graph:
- Flow 1 (95th percentile 276.86 ms)
- Flow 2 (95th percentile 278.06 ms)
- Flow 3 (95th percentile 278.93 ms)
Run 5: Statistics of PCC

Start at: 2018-01-27 00:38:40
End at: 2018-01-27 00:39:10

# Below is generated by plot.py at 2018-01-27 05:15:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 581.13 Mbit/s
95th percentile per-packet one-way delay: 247.343 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 527.04 Mbit/s
95th percentile per-packet one-way delay: 247.372 ms
Loss rate: 2.52%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 247.192 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 33.80 Mbit/s
95th percentile per-packet one-way delay: 247.097 ms
Loss rate: 3.58%
Run 5: Report of PCC — Data Link

![Graph 1](image)

![Graph 2](image)
Run 6: Statistics of PCC

Start at: 2018-01-27 00:55:20
End at: 2018-01-27 00:55:50

# Below is generated by plot.py at 2018-01-27 05:15:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 539.81 Mbit/s
95th percentile per-packet one-way delay: 251.035 ms
Loss rate: 4.21%
-- Flow 1:
Average throughput: 442.99 Mbit/s
95th percentile per-packet one-way delay: 251.009 ms
Loss rate: 4.04%
-- Flow 2:
Average throughput: 130.66 Mbit/s
95th percentile per-packet one-way delay: 251.086 ms
Loss rate: 4.77%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 251.364 ms
Loss rate: 6.54%
Run 6: Report of PCC — Data Link

Throughput (Mb/s)

Flow 1 ingress (mean 457.40 Mb/s) — Flow 1 egress (mean 442.99 Mb/s)
Flow 2 ingress (mean 135.32 Mb/s) — Flow 2 egress (mean 130.66 Mb/s)
Flow 3 ingress (mean 33.66 Mb/s) — Flow 3 egress (mean 32.35 Mb/s)

Delay (ms)

Flow 1 (95th percentile 251.01 ms) — Flow 2 (95th percentile 251.09 ms) — Flow 3 (95th percentile 251.36 ms)
Run 7: Statistics of PCC

Start at: 2018-01-27 01:11:41
End at: 2018-01-27 01:12:11

# Below is generated by plot.py at 2018-01-27 05:15:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.69 Mbit/s
95th percentile per-packet one-way delay: 266.842 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 443.19 Mbit/s
95th percentile per-packet one-way delay: 266.773 ms
Loss rate: 2.13%
-- Flow 2:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 266.653 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 268.216 ms
Loss rate: 3.85%
Run 7: Report of PCC — Data Link

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

![Graph 2: Per-packet one way delay (ms)]
Run 8: Statistics of PCC

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

# Below is generated by plot.py at 2018-01-27 05:16:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 559.09 Mbit/s
  95th percentile per-packet one-way delay: 248.829 ms
  Loss rate: 4.23%
-- Flow 1:
  Average throughput: 441.14 Mbit/s
  95th percentile per-packet one-way delay: 248.693 ms
  Loss rate: 3.82%
-- Flow 2:
  Average throughput: 120.79 Mbit/s
  95th percentile per-packet one-way delay: 249.595 ms
  Loss rate: 4.80%
-- Flow 3:
  Average throughput: 118.36 Mbit/s
  95th percentile per-packet one-way delay: 248.543 ms
  Loss rate: 7.70%
Run 8: Report of PCC — Data Link

![Graph showing throughput over time for different flows](image1)

- **Flow 1 Ingress** (mean 454.44 Mbps)
- **Flow 1 Egress** (mean 441.14 Mbps)
- **Flow 2 Ingress** (mean 125.00 Mbps)
- **Flow 2 Egress** (mean 120.79 Mbps)
- **Flow 3 Ingress** (mean 124.58 Mbps)
- **Flow 3 Egress** (mean 118.36 Mbps)

![Graph showing per-packet one-way delay over time for different flows](image2)

- **Flow 1** (95th percentile 248.69 ms)
- **Flow 2** (95th percentile 249.59 ms)
- **Flow 3** (95th percentile 248.54 ms)
Run 9: Statistics of PCC

Start at: 2018-01-27 01:43:43
End at: 2018-01-27 01:44:13

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 578.59 Mbit/s
95th percentile per-packet one-way delay: 257.753 ms
Loss rate: 2.97%
-- Flow 1:
Average throughput: 477.59 Mbit/s
95th percentile per-packet one-way delay: 256.592 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 123.12 Mbit/s
95th percentile per-packet one-way delay: 265.503 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 61.30 Mbit/s
95th percentile per-packet one-way delay: 252.069 ms
Loss rate: 7.27%
Run 9: Report of PCC — Data Link

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

Flow 1 Ingress (mean 485.36 Mbit/s) — Flow 1 Egress (mean 477.59 Mbit/s)
Flow 2 Ingress (mean 126.38 Mbit/s) — Flow 2 Egress (mean 123.12 Mbit/s)
Flow 3 Ingress (mean 64.10 Mbit/s) — Flow 3 Egress (mean 61.30 Mbit/s)
Run 10: Statistics of PCC

Start at: 2018-01-27 01:59:09
End at: 2018-01-27 01:59:39

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 51.35 Mbit/s
  95th percentile per-packet one-way delay: 163.222 ms
  Loss rate: 2.98%
-- Flow 1:
  Average throughput: 4.73 Mbit/s
  95th percentile per-packet one-way delay: 163.361 ms
  Loss rate: 1.27%
-- Flow 2:
  Average throughput: 10.05 Mbit/s
  95th percentile per-packet one-way delay: 163.122 ms
  Loss rate: 1.82%
-- Flow 3:
  Average throughput: 124.59 Mbit/s
  95th percentile per-packet one-way delay: 163.195 ms
  Loss rate: 3.37%
Run 10: Report of PCC — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-26 23:43:30
End at: 2018-01-26 23:44:00
Run 1: Report of QUIC Cubic — Data Link

![Graph of Throughput and Round-Trip Time](image)

- Flow 1 ingress (mean 0.11 Mbit/s)
- Flow 1 egress (mean 0.11 Mbit/s)
- Flow 2 ingress (mean 0.11 Mbit/s)
- Flow 2 egress (mean 0.11 Mbit/s)
- Flow 3 ingress (mean 0.11 Mbit/s)
- Flow 3 egress (mean 0.11 Mbit/s)

![Graph of Per-Flow One-Way Delay](image)

- Flow 1 (95th percentile 137.56 ms)
- Flow 2 (95th percentile 139.36 ms)
- Flow 3 (95th percentile 136.80 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-26 23:59:14
End at: 2018-01-26 23:59:44
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-27 00:14:52
End at: 2018-01-27 00:15:22
Run 3: Report of QUIC Cubic — Data Link

**Throughput (Mbps)**

- Flow 1 ingress (mean 0.11 Mbps)
- Flow 1 egress (mean 0.13 Mbps)
- Flow 2 ingress (mean 0.11 Mbps)
- Flow 2 egress (mean 0.13 Mbps)
- Flow 3 ingress (mean 0.11 Mbps)
- Flow 3 egress (mean 0.13 Mbps)

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

- Flow 1 (95th percentile 136.34 ms)
- Flow 2 (95th percentile 136.82 ms)
- Flow 3 (95th percentile 136.80 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-27 00:31:18
End at: 2018-01-27 00:31:48
Run 4: Report of QUIC Cubic — Data Link

![Graph showing throughput and per-packet one-way delay](image)

- Flow 1 ingress (mean 0.11 Mbps) — Flow 1 egress (mean 0.11 Mbps)
- Flow 2 ingress (mean 0.11 Mbps) — Flow 2 egress (mean 0.11 Mbps)
- Flow 3 ingress (mean 0.11 Mbps) — Flow 3 egress (mean 0.11 Mbps)
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-27 00:47:56
End at: 2018-01-27 00:48:26
Run 5: Report of QUIC Cubic — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image2)
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-27 01:04:19
End at: 2018-01-27 01:04:49
Run 6: Report of QUIC Cubic — Data Link

![Graph of Throughput vs Time](image)

![Graph of Per-Flow One-Way Delay vs Time](image)

Flow 1 ingress (mean 0.11 Mbps)  Flow 1 egress (mean 0.11 Mbps)
Flow 2 ingress (mean 0.11 Mbps)  Flow 2 egress (mean 0.11 Mbps)
Flow 3 ingress (mean 0.11 Mbps)  Flow 3 egress (mean 0.11 Mbps)
Run 7: Statistics of QUIC Cubic

Start at: 2018-01-27 01:20:21
End at: 2018-01-27 01:20:51
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-01-27 01:36:30
End at: 2018-01-27 01:37:00
Run 8: Report of QUIC Cubic — Data Link

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

- Flow 1 ingress (mean 0.11 Mbits/s)
- Flow 1 egress (mean 0.11 Mbits/s)
- Flow 2 ingress (mean 0.09 Mbits/s)
- Flow 2 egress (mean 0.08 Mbits/s)
- Flow 3 ingress (mean 0.11 Mbits/s)
- Flow 3 egress (mean 0.11 Mbits/s)

- Flow 1 (95th percentile 136.02 ms)
- Flow 2 (95th percentile 163.63 ms)
- Flow 3 (95th percentile 136.79 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-27 01:52:01
End at: 2018-01-27 01:52:31
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-27 02:07:19
End at: 2018-01-27 02:07:49
Run 10: Report of QUIC Cubic — Data Link

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

- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 0.08 Mbps)
- Flow 1 egress (mean 0.08 Mbps)
- Flow 2 ingress (mean 0.11 Mbps)
- Flow 2 egress (mean 0.11 Mbps)
- Flow 3 ingress (mean 0.11 Mbps)
- Flow 3 egress (mean 0.11 Mbps)

- Packet delay (ms)
- Time (s)
- Flow 1 (95th percentile 163.54 ms)
- Flow 2 (95th percentile 137.32 ms)
- Flow 3 (95th percentile 137.40 ms)
Run 1: Statistics of SCReAM

Start at: 2018-01-26 23:44:19
End at: 2018-01-26 23:44:49

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 136.368 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.381 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.342 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.245 ms
  Loss rate: 2.63%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

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

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 162.661 ms
  Loss rate: 1.33%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.514 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.393 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 162.721 ms
  Loss rate: 3.03%
Run 2: Report of SCReAM — Data Link

![Data Link Throughput and Delay Graph]

- **Throughput Graph**:
  - 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 0.19 Mbps)
  - Flow 3 egress (mean 0.19 Mbps)

- **Per-packet one-way delay Graph**:
  - Flow 1 (95th percentile 136.51 ms)
  - Flow 2 (95th percentile 135.39 ms)
  - Flow 3 (95th percentile 162.72 ms)
Run 3: Statistics of SCReAM

Start at: 2018-01-27 00:15:41
End at: 2018-01-27 00:16:11

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 137.124 ms
  Loss rate: 1.30%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.142 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 136.709 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.047 ms
  Loss rate: 2.63%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-01-27 00:32:06
End at: 2018-01-27 00:32:36

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 137.007 ms
  Loss rate: 1.30%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.999 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.391 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.066 ms
  Loss rate: 2.63%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2018-01-27 00:48:44
End at: 2018-01-27 00:49:14

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 136.796 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.555 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.829 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.372 ms
  Loss rate: 2.64%
Run 5: Report of SCReAM — Data Link
Run 6: Statistics of SCReAM

Start at: 2018-01-27 01:05:07
End at: 2018-01-27 01:05:37

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 136.564 ms
  Loss rate: 1.37%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.562 ms
  Loss rate: 0.90%
-- Flow 2:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 135.867 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.605 ms
  Loss rate: 2.63%
Run 6: Report of SCReAM — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.20 Mbps)
- Flow 2 egress (mean 0.20 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)

**Packet delay (ms)**
- Flow 1 (95th percentile 136.56 ms)
- Flow 2 (95th percentile 135.87 ms)
- Flow 3 (95th percentile 136.60 ms)
Run 7: Statistics of SCReAM

Start at: 2018-01-27 01:21:10
End at: 2018-01-27 01:21:40

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 137.256 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.286 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.197 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.200 ms
Loss rate: 2.32%
Run 7: Report of SCReAM — Data Link

![Graph showing network performance metrics](image1)

![Graph showing round-trip time](image2)
Run 8: Statistics of SCReAM

Start at: 2018-01-27 01:37:19
End at: 2018-01-27 01:37:49

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 0.43 Mbit/s
   95th percentile per-packet one-way delay: 163.157 ms
   Loss rate: 1.27%
-- Flow 1:
   Average throughput: 0.22 Mbit/s
   95th percentile per-packet one-way delay: 136.897 ms
   Loss rate: 0.89%
-- Flow 2:
   Average throughput: 0.21 Mbit/s
   95th percentile per-packet one-way delay: 163.200 ms
   Loss rate: 1.13%
-- Flow 3:
   Average throughput: 0.22 Mbit/s
   95th percentile per-packet one-way delay: 136.927 ms
   Loss rate: 2.63%
Run 9: Statistics of SCReAM

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

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 163.297 ms
  Loss rate: 1.39%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.180 ms
  Loss rate: 0.90%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.120 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 163.396 ms
  Loss rate: 3.02%
Run 9: Report of SCReAM — Data Link
Run 10: Statistics of SCReAM

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

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 163.247 ms
  Loss rate: 1.27%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.964 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.467 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 163.320 ms
  Loss rate: 2.62%
Run 10: Report of SCReAM — Data Link

![Graph 1: Throughput](image1)

![Graph 2: Delay](image2)
Run 1: Statistics of WebRTC media

Run 1: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.31 Mbit/s)
Flow 1 egress (mean 2.04 Mbit/s)
Flow 2 ingress (mean 1.24 Mbit/s)
Flow 2 egress (mean 1.91 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s)
Flow 3 egress (mean 0.63 Mbit/s)

Packetized end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 136.73 ms)
Flow 2 (95th percentile 136.42 ms)
Flow 3 (95th percentile 136.82 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-01-27 00:04:30
End at: 2018-01-27 00:05:00
Run 2: Report of WebRTC media — Data Link

![Graph showing throughput over time for different flows, with legends indicating mean bitrates for ingress and egress of each flow.]

![Graph showing packet one-way delay over time for different flows, with legends indicating 95th percentile delays for each flow.]
Run 3: Statistics of WebRTC media

Start at: 2018-01-27 00:20:24
End at: 2018-01-27 00:20:54

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 3.64 Mbit/s
 95th percentile per-packet one-way delay: 136.765 ms
 Loss rate: 1.76%
-- Flow 1:
 Average throughput: 2.02 Mbit/s
 95th percentile per-packet one-way delay: 136.786 ms
 Loss rate: 1.04%
-- Flow 2:
 Average throughput: 1.24 Mbit/s
 95th percentile per-packet one-way delay: 136.611 ms
 Loss rate: 1.74%
-- Flow 3:
 Average throughput: 0.41 Mbit/s
 95th percentile per-packet one-way delay: 136.608 ms
 Loss rate: 5.30%
Run 3: Report of WebRTC media — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 2.03 Mbps)
  - Flow 1 egress (mean 2.02 Mbps)
  - Flow 2 ingress (mean 1.25 Mbps)
  - Flow 2 egress (mean 1.24 Mbps)
  - Flow 3 ingress (mean 0.43 Mbps)
  - Flow 3 egress (mean 0.41 Mbps)

- **Latency (ms)**
  - Flow 1 (95th percentile 136.79 ms)
  - Flow 2 (95th percentile 136.61 ms)
  - Flow 3 (95th percentile 136.61 ms)
Run 4: Statistics of WebRTC media

Start at: 2018-01-27 00:36:51
End at: 2018-01-27 00:37:21

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
# Total of 3 flows:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 136.564 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 136.068 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.575 ms
Loss rate: 5.04%
Run 4: Report of WebRTC media — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows]
Run 5: Statistics of WebRTC media

Start at: 2018-01-27 00:53:31
End at: 2018-01-27 00:54:01

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.64 Mbit/s
  95th percentile per-packet one-way delay: 136.949 ms
  Loss rate: 1.82%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 136.973 ms
  Loss rate: 0.98%
-- Flow 2:
  Average throughput: 1.23 Mbit/s
  95th percentile per-packet one-way delay: 136.809 ms
  Loss rate: 1.92%
-- Flow 3:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 136.444 ms
  Loss rate: 5.52%
Run 5: Report of WebRTC media — Data Link
Run 6: Statistics of WebRTC media

Start at: 2018-01-27 01:09:52
End at: 2018-01-27 01:10:22

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.38 Mbit/s
  95th percentile per-packet one-way delay: 137.413 ms
  Loss rate: 2.15%
  -- Flow 1:
  Average throughput: 1.96 Mbit/s
  95th percentile per-packet one-way delay: 137.106 ms
  Loss rate: 1.30%
  -- Flow 2:
  Average throughput: 1.14 Mbit/s
  95th percentile per-packet one-way delay: 137.504 ms
  Loss rate: 2.05%
  -- Flow 3:
  Average throughput: 0.31 Mbit/s
  95th percentile per-packet one-way delay: 136.875 ms
  Loss rate: 7.69%
Run 6: Report of WebRTC media — Data Link

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

- **Flow 1 ingress (mean 1.97 Mbit/s)**
- **Flow 1 egress (mean 1.96 Mbit/s)**
- **Flow 2 ingress (mean 1.15 Mbit/s)**
- **Flow 2 egress (mean 1.14 Mbit/s)**
- **Flow 3 ingress (mean 0.34 Mbit/s)**
- **Flow 3 egress (mean 0.31 Mbit/s)**

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

- **Flow 1 (95th percentile 137.11 ms)**
- **Flow 2 (95th percentile 137.50 ms)**
- **Flow 3 (95th percentile 136.88 ms)**
Run 7: Statistics of WebRTC media

Start at: 2018-01-27 01:25:39
End at: 2018-01-27 01:26:09

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.65 Mbit/s
  95th percentile per-packet one-way delay: 136.854 ms
  Loss rate: 1.91%
-- Flow 1:
  Average throughput: 2.04 Mbit/s
  95th percentile per-packet one-way delay: 136.499 ms
  Loss rate: 1.11%
-- Flow 2:
  Average throughput: 1.24 Mbit/s
  95th percentile per-packet one-way delay: 136.762 ms
  Loss rate: 2.15%
-- Flow 3:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 136.954 ms
  Loss rate: 5.16%
Run 7: Report of WebRTC media — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 2.05 Mbps)
Flow 1 egress (mean 2.04 Mbps)
Flow 2 ingress (mean 1.25 Mbps)
Flow 2 egress (mean 1.24 Mbps)
Flow 3 ingress (mean 0.42 Mbps)
Flow 3 egress (mean 0.41 Mbps)

Round-trip time (ms)

Time (s)

Flow 1 (95th percentile 136.50 ms)
Flow 2 (95th percentile 136.76 ms)
Flow 3 (95th percentile 136.95 ms)
Run 8: Statistics of WebRTC media

Start at: 2018-01-27 01:41:54
End at: 2018-01-27 01:42:24
Run 8: Report of WebRTC media — Data Link
Run 9: Statistics of WebRTC media

Start at: 2018-01-27 01:57:21
End at: 2018-01-27 01:57:51
Run 9: Report of WebRTC media — Data Link
Run 10: Statistics of WebRTC media

Start at: 2018-01-27 02:12:42
End at: 2018-01-27 02:13:12

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.63 Mbit/s
  95th percentile per-packet one-way delay: 136.960 ms
  Loss rate: 1.83%
-- Flow 1:
  Average throughput: 2.04 Mbit/s
  95th percentile per-packet one-way delay: 136.969 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 1.22 Mbit/s
  95th percentile per-packet one-way delay: 136.873 ms
  Loss rate: 1.99%
-- Flow 3:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 137.037 ms
  Loss rate: 5.85%
Run 10: Report of WebRTC media — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image2)
Run 1: Statistics of Sprout

Start at: 2018-01-26 23:39:06
End at: 2018-01-26 23:39:36

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.84 Mbit/s
  95th percentile per-packet one-way delay: 136.355 ms
  Loss rate: 0.88%
-- Flow 1:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 136.172 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 0.45 Mbit/s
  95th percentile per-packet one-way delay: 136.350 ms
  Loss rate: 1.26%
-- Flow 3:
  Average throughput: 0.58 Mbit/s
  95th percentile per-packet one-way delay: 136.745 ms
  Loss rate: 1.83%
Run 1: Report of Sprout — Data Link

[Graph showing throughput and latency over time for different flows]

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Run 2: Statistics of Sprout


# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.71 Mbit/s
  95th percentile per-packet one-way delay: 163.000 ms
  Loss rate: 0.30%
-- Flow 1:
  Average throughput: 0.52 Mbit/s
  95th percentile per-packet one-way delay: 163.021 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 162.677 ms
  Loss rate: 1.34%
-- Flow 3:
  Average throughput: 0.32 Mbit/s
  95th percentile per-packet one-way delay: 162.845 ms
  Loss rate: 0.16%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2018-01-27 00:10:34
End at: 2018-01-27 00:11:04
Run 3: Report of Sprout — Data Link

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

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

Flow 1 ingress (mean 0.20 Mbit/s), Flow 1 egress (mean 0.20 Mbit/s), Flow 2 ingress (mean 0.23 Mbit/s), Flow 2 egress (mean 0.24 Mbit/s), Flow 3 ingress (mean 0.10 Mbit/s), Flow 3 egress (mean 0.10 Mbit/s)
Run 4: Statistics of Sprout

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

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.82 Mbit/s
  95th percentile per-packet one-way delay: 136.647 ms
  Loss rate: 1.14%
-- Flow 1:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 136.719 ms
  Loss rate: 1.22%
-- Flow 2:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 136.550 ms
  Loss rate: 0.30%
-- Flow 3:
  Average throughput: 0.46 Mbit/s
  95th percentile per-packet one-way delay: 136.549 ms
  Loss rate: 2.30%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2018-01-27 00:43:31
End at: 2018-01-27 00:44:01

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 136.300 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 136.363 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 136.185 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 136.337 ms
Loss rate: 2.17%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

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

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.87 Mbit/s
  95th percentile per-packet one-way delay: 136.671 ms
  Loss rate: 1.31%
-- Flow 1:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 136.661 ms
  Loss rate: 0.70%
-- Flow 2:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 136.627 ms
  Loss rate: 1.30%
-- Flow 3:
  Average throughput: 0.57 Mbit/s
  95th percentile per-packet one-way delay: 136.756 ms
  Loss rate: 2.73%
Run 6: Report of Sprout — Data Link
Run 7: Statistics of Sprout

Start at: 2018-01-27 01:16:17
End at: 2018-01-27 01:16:47

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.74 Mbit/s
  95th percentile per-packet one-way delay: 137.039 ms
  Loss rate: 1.76%
-- Flow 1:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 136.999 ms
  Loss rate: 1.54%
-- Flow 2:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 136.791 ms
  Loss rate: 1.62%
-- Flow 3:
  Average throughput: 0.33 Mbit/s
  95th percentile per-packet one-way delay: 137.110 ms
  Loss rate: 2.89%
Run 7: Report of Sprout — Data Link

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

![Graph 2: Latency vs Time](image)
Run 8: Statistics of Sprout

Start at: 2018-01-27 01:32:14
End at: 2018-01-27 01:32:44

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.72 Mbit/s
  95th percentile per-packet one-way delay: 163.130 ms
  Loss rate: 1.60%
-- Flow 1:
  Average throughput: 0.34 Mbit/s
  95th percentile per-packet one-way delay: 162.866 ms
  Loss rate: 1.01%
-- Flow 2:
  Average throughput: 0.35 Mbit/s
  95th percentile per-packet one-way delay: 136.654 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 0.46 Mbit/s
  95th percentile per-packet one-way delay: 163.210 ms
  Loss rate: 3.28%
Run 8: Report of Sprout — Data Link
Run 9: Statistics of Sprout

Start at: 2018-01-27 01:48:20
End at: 2018-01-27 01:48:50

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.75 Mbit/s
  95th percentile per-packet one-way delay: 163.477 ms
  Loss rate: 1.27%
  -- Flow 1:
  Average throughput: 0.34 Mbit/s
  95th percentile per-packet one-way delay: 860.930 ms
  Loss rate: 1.04%
  -- Flow 2:
  Average throughput: 0.35 Mbit/s
  95th percentile per-packet one-way delay: 163.308 ms
  Loss rate: 1.09%
  -- Flow 3:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 163.318 ms
  Loss rate: 2.09%
Run 9: Report of Sprout — Data Link

![Throughput Graph](image1)

![Packet Delay Graph](image2)

Flow 1: Ingress (mean 0.29 Mbit/s), Egress (mean 0.34 Mbit/s)
Flow 2: Ingress (mean 0.35 Mbit/s), Egress (mean 0.35 Mbit/s)
Flow 3: Ingress (mean 0.40 Mbit/s), Egress (mean 0.40 Mbit/s)

Flow 1 (95th percentile 160.93 ms), Flow 2 (95th percentile 163.31 ms), Flow 3 (95th percentile 163.32 ms)
Run 10: Statistics of Sprout

Start at: 2018-01-27 02:03:26
End at: 2018-01-27 02:03:56

# Below is generated by plot.py at 2018-01-27 05:17:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 163.573 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 163.620 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 163.419 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 163.415 ms
Loss rate: 0.89%
Run 10: Report of Sprout — Data Link

![Graph of throughput over time for different flows.](image)

![Graph of packet one-way delay over time for different flows.](image)
Run 1: Statistics of TaoVA-100x

End at: 2018-01-26 23:40:25

# Below is generated by plot.py at 2018-01-27 05:24:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 331.57 Mbit/s
  95th percentile per-packet one-way delay: 136.544 ms
  Loss rate: 1.46%
-- Flow 1:
  Average throughput: 214.23 Mbit/s
  95th percentile per-packet one-way delay: 136.563 ms
  Loss rate: 1.10%
-- Flow 2:
  Average throughput: 178.40 Mbit/s
  95th percentile per-packet one-way delay: 135.946 ms
  Loss rate: 2.05%
-- Flow 3:
  Average throughput: 12.52 Mbit/s
  95th percentile per-packet one-way delay: 135.967 ms
  Loss rate: 3.58%
Run 1: Report of TaoVA-100x — Data Link

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Flow 1 ingress (mean 214.51 Mbit/s)  
Flow 1 egress (mean 214.23 Mbit/s)  
Flow 2 ingress (mean 179.36 Mbit/s)  
Flow 2 egress (mean 178.40 Mbit/s)  
Flow 3 ingress (mean 12.54 Mbit/s)  
Flow 3 egress (mean 12.52 Mbit/s)

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Flow 1 (95th percentile 136.56 ms)  
Flow 2 (95th percentile 135.95 ms)  
Flow 3 (95th percentile 135.97 ms)

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Run 2: Statistics of TaoVA-100x

Start at: 2018-01-26 23:56:17
End at: 2018-01-26 23:56:47

# Below is generated by plot.py at 2018-01-27 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.89 Mbit/s
95th percentile per-packet one-way delay: 162.639 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 162.547 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.14 Mbit/s
95th percentile per-packet one-way delay: 162.770 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 162.547 ms
Loss rate: 10.52%
Run 2: Report of TaoVA-100x — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 8.67 Mbps)
  - Flow 1 egress (mean 8.66 Mbps)
  - Flow 2 ingress (mean 9.10 Mbps)
  - Flow 2 egress (mean 9.14 Mbps)
  - Flow 3 ingress (mean 3.62 Mbps)
  - Flow 3 egress (mean 3.36 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 162.55 ms)
  - Flow 2 (95th percentile 162.77 ms)
  - Flow 3 (95th percentile 162.55 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2018-01-27 00:11:23
End at: 2018-01-27 00:11:53

# Below is generated by plot.py at 2018-01-27 05:24:23
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 319.58 Mbit/s
  95th percentile per-packet one-way delay: 136.650 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 213.82 Mbit/s
  95th percentile per-packet one-way delay: 136.495 ms
  Loss rate: 0.19%
-- Flow 2:
  Average throughput: 117.77 Mbit/s
  95th percentile per-packet one-way delay: 136.670 ms
  Loss rate: 0.74%
-- Flow 3:
  Average throughput: 110.51 Mbit/s
  95th percentile per-packet one-way delay: 138.336 ms
  Loss rate: 2.27%
Run 3: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 214.02 Mbit/s)
- Flow 1 egress (mean 213.82 Mbit/s)
- Flow 2 ingress (mean 118.37 Mbit/s)
- Flow 2 egress (mean 117.77 Mbit/s)
- Flow 3 ingress (mean 112.32 Mbit/s)
- Flow 3 egress (mean 110.51 Mbit/s)

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

- Flow 1 (95th percentile 136.50 ms)
- Flow 2 (95th percentile 136.67 ms)
- Flow 3 (95th percentile 138.34 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2018-01-27 00:27:45
End at: 2018-01-27 00:28:15

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 341.98 Mbit/s
  95th percentile per-packet one-way delay: 137.377 ms
  Loss rate: 1.02%
-- Flow 1:
  Average throughput: 206.30 Mbit/s
  95th percentile per-packet one-way delay: 137.306 ms
  Loss rate: 0.78%
-- Flow 2:
  Average throughput: 192.11 Mbit/s
  95th percentile per-packet one-way delay: 136.990 ms
  Loss rate: 1.31%
-- Flow 3:
  Average throughput: 48.00 Mbit/s
  95th percentile per-packet one-way delay: 151.236 ms
  Loss rate: 2.15%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

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

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 327.91 Mbit/s
  95th percentile per-packet one-way delay: 137.422 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 203.46 Mbit/s
  95th percentile per-packet one-way delay: 136.661 ms
  Loss rate: 1.11%
-- Flow 2:
  Average throughput: 189.71 Mbit/s
  95th percentile per-packet one-way delay: 139.513 ms
  Loss rate: 1.03%
-- Flow 3:
  Average throughput: 12.30 Mbit/s
  95th percentile per-packet one-way delay: 138.720 ms
  Loss rate: 3.85%
Run 5: Report of TaoVA-100x — Data Link

![Graph of throughput and packet loss over time for different flows. The graphs show fluctuations in throughput and packet loss throughout the monitored period.]

Legend:
- Flow 1 ingress (mean 203.76 Mbit/s)
- Flow 1 egress (mean 203.46 Mbit/s)
- Flow 2 ingress (mean 188.80 Mbit/s)
- Flow 2 egress (mean 189.71 Mbit/s)
- Flow 3 ingress (mean 12.33 Mbit/s)
- Flow 3 egress (mean 12.30 Mbit/s)

![Graph of packet loss over time for different flows. The graphs show fluctuations in packet loss throughout the monitored period.]

Legend:
- Flow 1 (95th percentile 136.66 ms)
- Flow 2 (95th percentile 139.51 ms)
- Flow 3 (95th percentile 138.72 ms)
Run 6: Statistics of TaoVA-100x

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

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.47 Mbit/s
95th percentile per-packet one-way delay: 136.497 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 137.340 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 202.84 Mbit/s
95th percentile per-packet one-way delay: 136.435 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 197.33 Mbit/s
95th percentile per-packet one-way delay: 136.459 ms
Loss rate: 4.20%
Run 6: Report of TaoVA-100x — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 12.35 Mbps)  Flow 1 egress (mean 12.37 Mbps)
Flow 2 ingress (mean 203.35 Mbps)  Flow 2 egress (mean 202.64 Mbps)
Flow 3 ingress (mean 196.90 Mbps)  Flow 3 egress (mean 197.33 Mbps)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 137.34 ms)  Flow 2 (95th percentile 136.44 ms)  Flow 3 (95th percentile 136.46 ms)

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Run 7: Statistics of TaoVA-100x

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

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 202.59 Mbit/s
  95th percentile per-packet one-way delay: 136.786 ms
  Loss rate: 2.02%
-- Flow 1:
  Average throughput: 156.02 Mbit/s
  95th percentile per-packet one-way delay: 136.774 ms
  Loss rate: 1.27%
-- Flow 2:
  Average throughput: 11.17 Mbit/s
  95th percentile per-packet one-way delay: 137.140 ms
  Loss rate: 1.84%
-- Flow 3:
  Average throughput: 144.13 Mbit/s
  95th percentile per-packet one-way delay: 136.744 ms
  Loss rate: 4.93%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

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

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.72 Mbit/s
  95th percentile per-packet one-way delay: 137.727 ms
  Loss rate: 1.73%
-- Flow 1:
  Average throughput: 149.87 Mbit/s
  95th percentile per-packet one-way delay: 136.658 ms
  Loss rate: 1.65%
-- Flow 2:
  Average throughput: 162.93 Mbit/s
  95th percentile per-packet one-way delay: 137.490 ms
  Loss rate: 0.16%
-- Flow 3:
  Average throughput: 169.95 Mbit/s
  95th percentile per-packet one-way delay: 144.522 ms
  Loss rate: 5.25%
Run 9: Statistics of TaoVA-100x

Start at: 2018-01-27 01:49:09
End at: 2018-01-27 01:49:39

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.17 Mbit/s
  95th percentile per-packet one-way delay: 163.194 ms
  Loss rate: 2.55%
-- Flow 1:
  Average throughput: 2.43 Mbit/s
  95th percentile per-packet one-way delay: 163.376 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 2.94 Mbit/s
  95th percentile per-packet one-way delay: 163.136 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 3.40 Mbit/s
  95th percentile per-packet one-way delay: 163.039 ms
  Loss rate: 10.52%
Run 9: Report of TaoVA-100x — Data Link
Run 10: Statistics of TaoVA-100x

Start at: 2018-01-27 02:04:15
End at: 2018-01-27 02:04:45

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.69 Mbit/s
95th percentile per-packet one-way delay: 136.901 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 12.94 Mbit/s
95th percentile per-packet one-way delay: 136.940 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 12.98 Mbit/s
95th percentile per-packet one-way delay: 137.172 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 176.62 Mbit/s
95th percentile per-packet one-way delay: 136.587 ms
Loss rate: 4.44%
Run 10: Report of TaoVA-100x — Data Link

![Throughput Graph](chart1)

![Delay Graph](chart2)
Run 1: Statistics of TCP Vegas

Start at: 2018-01-26 23:45:08
End at: 2018-01-26 23:45:38

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 57.37 Mbit/s
  95th percentile per-packet one-way delay: 146.795 ms
  Loss rate: 2.75%
-- Flow 1:
  Average throughput: 16.85 Mbit/s
  95th percentile per-packet one-way delay: 142.973 ms
  Loss rate: 4.36%
-- Flow 2:
  Average throughput: 43.86 Mbit/s
  95th percentile per-packet one-way delay: 147.743 ms
  Loss rate: 0.47%
-- Flow 3:
  Average throughput: 35.20 Mbit/s
  95th percentile per-packet one-way delay: 146.367 ms
  Loss rate: 5.89%
Run 1: Report of TCP Vegas — Data Link

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

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

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Run 2: Statistics of TCP Vegas

Start at: 2018-01-27 00:00:51
End at: 2018-01-27 00:01:21

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 5.91 Mbit/s
 95th percentile per-packet one-way delay: 163.392 ms
 Loss rate: 1.56%
  -- Flow 1:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 163.002 ms
  Loss rate: 0.99%
   -- Flow 2:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 162.948 ms
  Loss rate: 1.51%
   -- Flow 3:
  Average throughput: 11.82 Mbit/s
  95th percentile per-packet one-way delay: 163.544 ms
  Loss rate: 1.73%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-01-27 00:16:29
End at: 2018-01-27 00:16:59

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.67 Mbit/s
95th percentile per-packet one-way delay: 148.267 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 15.53 Mbit/s
95th percentile per-packet one-way delay: 144.030 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 147.950 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 70.46 Mbit/s
95th percentile per-packet one-way delay: 149.585 ms
Loss rate: 3.51%
Run 3: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 15.48 Mbit/s)
- Flow 1 egress (mean 15.53 Mbit/s)
- Flow 2 ingress (mean 21.86 Mbit/s)
- Flow 2 egress (mean 21.96 Mbit/s)
- Flow 3 ingress (mean 71.00 Mbit/s)
- Flow 3 egress (mean 70.46 Mbit/s)
Run 4: Statistics of TCP Vegas

Start at: 2018-01-27 00:32:55
End at: 2018-01-27 00:33:25

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.75 Mbit/s
95th percentile per-packet one-way delay: 146.656 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 18.47 Mbit/s
95th percentile per-packet one-way delay: 145.749 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 57.55 Mbit/s
95th percentile per-packet one-way delay: 147.001 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 136.542 ms
Loss rate: 5.49%
Run 4: Report of TCP Vegas — Data Link

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

- **Flow 1 ingress (mean 18.59 Mbps)**
- **Flow 1 egress (mean 18.47 Mbps)**
- **Flow 2 ingress (mean 57.32 Mbps)**
- **Flow 2 egress (mean 57.35 Mbps)**
- **Flow 3 ingress (mean 0.64 Mbps)**
- **Flow 3 egress (mean 0.62 Mbps)**

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

- **Flow 1 (95th percentile 145.75 ms)**
- **Flow 2 (95th percentile 147.00 ms)**
- **Flow 3 (95th percentile 130.54 ms)**
Run 5: Statistics of TCP Vegas

Start at: 2018-01-27 00:49:33
End at: 2018-01-27 00:50:03

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 62.68 Mbit/s
  95th percentile per-packet one-way delay: 145.078 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 34.20 Mbit/s
  95th percentile per-packet one-way delay: 142.944 ms
  Loss rate: 1.03%
-- Flow 2:
  Average throughput: 42.58 Mbit/s
  95th percentile per-packet one-way delay: 145.768 ms
  Loss rate: 0.77%
-- Flow 3:
  Average throughput: 0.91 Mbit/s
  95th percentile per-packet one-way delay: 136.509 ms
  Loss rate: 5.58%
Run 5: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 34.24 Mbit/s)
- Flow 1 egress (mean 34.20 Mbit/s)
- Flow 2 ingress (mean 42.27 Mbit/s)
- Flow 2 egress (mean 42.58 Mbit/s)
- Flow 3 ingress (mean 0.93 Mbit/s)
- Flow 3 egress (mean 0.91 Mbit/s)

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Run 6: Statistics of TCP Vegas

Start at: 2018-01-27 01:05:56
End at: 2018-01-27 01:06:26

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 52.51 Mbit/s
  95th percentile per-packet one-way delay: 139.655 ms
  Loss rate: 1.33%
-- Flow 1:
  Average throughput: 24.41 Mbit/s
  95th percentile per-packet one-way delay: 137.975 ms
  Loss rate: 0.98%
-- Flow 2:
  Average throughput: 31.98 Mbit/s
  95th percentile per-packet one-way delay: 140.186 ms
  Loss rate: 0.79%
-- Flow 3:
  Average throughput: 21.50 Mbit/s
  95th percentile per-packet one-way delay: 142.400 ms
  Loss rate: 4.09%
Run 6: Report of TCP Vegas — Data Link

![Graph of Throughput and Delay]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 24.42 Mbit/s)
Flow 1 egress (mean 24.41 Mbit/s)
Flow 2 ingress (mean 31.79 Mbit/s)
Flow 2 egress (mean 31.98 Mbit/s)
Flow 3 ingress (mean 21.79 Mbit/s)
Flow 3 egress (mean 21.50 Mbit/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 137.97 ms)
Flow 2 (95th percentile 140.19 ms)
Flow 3 (95th percentile 142.40 ms)
Run 7: Statistics of TCP Vegas

Start at: 2018-01-27 01:21:59
End at: 2018-01-27 01:22:29

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.47 Mbit/s
95th percentile per-packet one-way delay: 137.423 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 137.355 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 137.087 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 38.94 Mbit/s
95th percentile per-packet one-way delay: 138.193 ms
Loss rate: 3.43%
Run 7: Report of TCP Vegas — Data Link

![Graph of throughput and latency over time]

Legend:
- Flow 1 ingress (mean 24.63 Mbit/s)
- Flow 1 egress (mean 24.71 Mbit/s)
- Flow 2 ingress (mean 24.43 Mbit/s)
- Flow 2 egress (mean 24.38 Mbit/s)
- Flow 3 ingress (mean 39.20 Mbit/s)
- Flow 3 egress (mean 30.94 Mbit/s)

![Graph of 95th percentile one-way delay over time]

Legend:
- Flow 1 (95th percentile 137.35 ms)
- Flow 2 (95th percentile 137.09 ms)
- Flow 3 (95th percentile 138.19 ms)
Run 8: Statistics of TCP Vegas

Start at: 2018-01-27 01:38:07
End at: 2018-01-27 01:38:37

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 166.674 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 163.033 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 39.97 Mbit/s
95th percentile per-packet one-way delay: 167.602 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 163.772 ms
Loss rate: 7.12%
Run 8: Report of TCP Vegas — Data Link

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

Legend:
- Flow 1 ingress (mean 1.50 Mbit/s)
- Flow 2 ingress (mean 39.71 Mbit/s)
- Flow 3 ingress (mean 14.61 Mbit/s)
- Flow 1 egress (mean 1.50 Mbit/s)
- Flow 2 egress (mean 39.97 Mbit/s)
- Flow 3 egress (mean 13.95 Mbit/s)

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

Legend:
- Flow 1 (95th percentile 163.03 ms)
- Flow 2 (95th percentile 167.60 ms)
- Flow 3 (95th percentile 163.77 ms)
Run 9: Statistics of TCP Vegas

Start at: 2018-01-27 01:53:39
End at: 2018-01-27 01:54:09

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 49.11 Mbit/s
  95th percentile per-packet one-way delay: 164.008 ms
  Loss rate: 1.26%
-- Flow 1:
  Average throughput: 23.93 Mbit/s
  95th percentile per-packet one-way delay: 163.762 ms
  Loss rate: 0.55%
-- Flow 2:
  Average throughput: 37.76 Mbit/s
  95th percentile per-packet one-way delay: 164.154 ms
  Loss rate: 1.90%
-- Flow 3:
  Average throughput: 0.82 Mbit/s
  95th percentile per-packet one-way delay: 163.477 ms
  Loss rate: 3.24%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

Start at: 2018-01-27 02:08:56
End at: 2018-01-27 02:09:26

# Below is generated by plot.py at 2018-01-27 05:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.51 Mbit/s
95th percentile per-packet one-way delay: 171.613 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 166.531 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 73.92 Mbit/s
95th percentile per-packet one-way delay: 171.677 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 164.943 ms
Loss rate: 3.11%
Run 10: Report of TCP Vegas — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: One-way delay (ms)]
Run 1: Statistics of Verus

Start at: 2018-01-26 23:35:37
End at: 2018-01-26 23:36:07

# Below is generated by plot.py at 2018-01-27 05:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.97 Mbit/s
95th percentile per-packet one-way delay: 155.377 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 115.63 Mbit/s
95th percentile per-packet one-way delay: 147.478 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 55.39 Mbit/s
95th percentile per-packet one-way delay: 141.741 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 51.85 Mbit/s
95th percentile per-packet one-way delay: 245.452 ms
Loss rate: 9.21%
Run 1: Report of Verus — Data Link

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

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Run 2: Statistics of Verus

Start at: 2018-01-26 23:51:58
End at: 2018-01-26 23:52:28

# Below is generated by plot.py at 2018-01-27 05:27:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.49 Mbit/s
95th percentile per-packet one-way delay: 223.677 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 152.70 Mbit/s
95th percentile per-packet one-way delay: 217.974 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 56.13 Mbit/s
95th percentile per-packet one-way delay: 219.619 ms
Loss rate: 4.26%
-- Flow 3:
Average throughput: 162.01 Mbit/s
95th percentile per-packet one-way delay: 237.260 ms
Loss rate: 1.13%
Run 2: Report of Verus — Data Link

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

- Flow 1 ingress (mean 152.66 Mbit/s)
- Flow 1 egress (mean 152.70 Mbit/s)
- Flow 2 ingress (mean 57.51 Mbit/s)
- Flow 2 egress (mean 56.13 Mbit/s)
- Flow 3 ingress (mean 158.99 Mbit/s)
- Flow 3 egress (mean 162.01 Mbit/s)

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

- Flow 1 (95th percentile 217.97 ms)
- Flow 2 (95th percentile 219.62 ms)
- Flow 3 (95th percentile 237.26 ms)
Run 3: Statistics of Verus

Start at: 2018-01-27 00:07:11
End at: 2018-01-27 00:07:41

# Below is generated by plot.py at 2018-01-27 05:27:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 176.11 Mbit/s
  95th percentile per-packet one-way delay: 240.177 ms
  Loss rate: 2.48%
-- Flow 1:
  Average throughput: 92.17 Mbit/s
  95th percentile per-packet one-way delay: 261.733 ms
  Loss rate: 2.44%
-- Flow 2:
  Average throughput: 125.51 Mbit/s
  95th percentile per-packet one-way delay: 207.139 ms
  Loss rate: 2.32%
-- Flow 3:
  Average throughput: 7.30 Mbit/s
  95th percentile per-packet one-way delay: 180.492 ms
  Loss rate: 9.38%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-01-27 00:23:27
End at: 2018-01-27 00:23:57

# Below is generated by plot.py at 2018-01-27 05:27:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 194.37 Mbit/s
95th percentile per-packet one-way delay: 168.081 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 137.81 Mbit/s
95th percentile per-packet one-way delay: 171.206 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 72.81 Mbit/s
95th percentile per-packet one-way delay: 163.195 ms
Loss rate: 4.34%
-- Flow 3:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 146.106 ms
Loss rate: 3.35%
Run 4: Report of Verus — Data Link

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

- **Flow 1 ingress** (mean 138.23 Mbit/s)
- **Flow 1 egress** (mean 137.81 Mbit/s)
- **Flow 2 ingress** (mean 75.06 Mbit/s)
- **Flow 2 egress** (mean 72.81 Mbit/s)
- **Flow 3 ingress** (mean 25.38 Mbit/s)
- **Flow 3 egress** (mean 25.41 Mbit/s)

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

- **Flow 1** (95th percentile 171.21 ms)
- **Flow 2** (95th percentile 163.19 ms)
- **Flow 3** (95th percentile 146.11 ms)
Run 5: Statistics of Verus

Start at: 2018-01-27 00:39:56
End at: 2018-01-27 00:40:26

# Below is generated by plot.py at 2018-01-27 05:28:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.25 Mbit/s
95th percentile per-packet one-way delay: 163.167 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 191.70 Mbit/s
95th percentile per-packet one-way delay: 166.533 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 67.17 Mbit/s
95th percentile per-packet one-way delay: 148.698 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 48.98 Mbit/s
95th percentile per-packet one-way delay: 144.511 ms
Loss rate: 0.25%
Run 5: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 191.86 Mbit/s)
- Flow 1 egress (mean 191.70 Mbit/s)
- Flow 2 ingress (mean 66.28 Mbit/s)
- Flow 2 egress (mean 67.17 Mbit/s)
- Flow 3 ingress (mean 47.73 Mbit/s)
- Flow 3 egress (mean 48.98 Mbit/s)
Run 6: Statistics of Verus

Start at: 2018-01-27 00:56:35
End at: 2018-01-27 00:57:05

# Below is generated by plot.py at 2018-01-27 05:29:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 291.95 Mbit/s
  95th percentile per-packet one-way delay: 203.712 ms
  Loss rate: 1.76%
-- Flow 1:
  Average throughput: 209.77 Mbit/s
  95th percentile per-packet one-way delay: 168.404 ms
  Loss rate: 1.03%
-- Flow 2:
  Average throughput: 109.92 Mbit/s
  95th percentile per-packet one-way delay: 267.372 ms
  Loss rate: 4.00%
-- Flow 3:
  Average throughput: 29.63 Mbit/s
  95th percentile per-packet one-way delay: 202.570 ms
  Loss rate: 0.10%
Run 6: Report of Verus — Data Link

![Throughput Graph]

![Latency Graph]

- **Flow 1 ingress** (mean 210.01 Mbit/s)
- **Flow 1 egress** (mean 209.77 Mbit/s)
- **Flow 2 ingress** (mean 113.46 Mbit/s)
- **Flow 2 egress** (mean 109.92 Mbit/s)
- **Flow 3 ingress** (mean 28.82 Mbit/s)
- **Flow 3 egress** (mean 29.63 Mbit/s)
Run 7: Statistics of Verus

Start at: 2018-01-27 01:12:53
End at: 2018-01-27 01:13:23

# Below is generated by plot.py at 2018-01-27 05:29:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.18 Mbit/s
95th percentile per-packet one-way delay: 174.657 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 197.284 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 31.92 Mbit/s
95th percentile per-packet one-way delay: 164.369 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 115.97 Mbit/s
95th percentile per-packet one-way delay: 162.449 ms
Loss rate: 4.76%
Run 7: Report of Verus — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 33.39 Mbps)
  - Flow 1 egress (mean 72.73 Mbps)
  - Flow 2 ingress (mean 31.74 Mbps)
  - Flow 2 egress (mean 31.92 Mbps)
  - Flow 3 ingress (mean 114.69 Mbps)
  - Flow 3 egress (mean 115.97 Mbps)

- **Packet Delivery Delay (ms)**
  - Flow 1 (95th percentile 197.28 ms)
  - Flow 2 (95th percentile 164.37 ms)
  - Flow 3 (95th percentile 162.45 ms)
Run 8: Statistics of Verus

Start at: 2018-01-27 01:28:42
End at: 2018-01-27 01:29:12

# Below is generated by plot.py at 2018-01-27 05:29:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 203.30 Mbit/s
  95th percentile per-packet one-way delay: 194.930 ms
  Loss rate: 0.96%
-- Flow 1:
  Average throughput: 126.78 Mbit/s
  95th percentile per-packet one-way delay: 201.975 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 70.34 Mbit/s
  95th percentile per-packet one-way delay: 187.190 ms
  Loss rate: 2.30%
-- Flow 3:
  Average throughput: 93.04 Mbit/s
  95th percentile per-packet one-way delay: 159.895 ms
  Loss rate: 2.83%
Run 8: Report of Verus — Data Link

![Graph showing network performance metrics over time, with details on throughput and per-packet one-way delay.]
Run 9: Statistics of Verus

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

# Below is generated by plot.py at 2018-01-27 05:30:31
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 247.20 Mbit/s
   95th percentile per-packet one-way delay: 268.210 ms
   Loss rate: 5.33%
-- Flow 1:
   Average throughput: 129.52 Mbit/s
   95th percentile per-packet one-way delay: 259.122 ms
   Loss rate: 4.24%
-- Flow 2:
   Average throughput: 152.87 Mbit/s
   95th percentile per-packet one-way delay: 279.053 ms
   Loss rate: 5.28%
-- Flow 3:
   Average throughput: 56.02 Mbit/s
   95th percentile per-packet one-way delay: 397.606 ms
   Loss rate: 13.42%
Run 9: Report of Verus — Data Link

![Network Performance Graphs]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 135.33 Mbps)
  - Flow 1 egress (mean 129.52 Mbps)
  - Flow 2 ingress (mean 162.22 Mbps)
  - Flow 2 egress (mean 152.87 Mbps)
  - Flow 3 ingress (mean 56.41 Mbps)
  - Flow 3 egress (mean 56.02 Mbps)

- **Pre-packet one-way delay (ms):**
  - Flow 1 (95th percentile 259.12 ms)
  - Flow 2 (95th percentile 279.05 ms)
  - Flow 3 (95th percentile 397.61 ms)
Run 10: Statistics of Verus

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

# Below is generated by plot.py at 2018-01-27 05:30:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 191.44 Mbit/s
  95th percentile per-packet one-way delay: 239.793 ms
  Loss rate: 2.49%
-- Flow 1:
  Average throughput: 106.68 Mbit/s
  95th percentile per-packet one-way delay: 221.409 ms
  Loss rate: 2.49%
-- Flow 2:
  Average throughput: 105.19 Mbit/s
  95th percentile per-packet one-way delay: 181.898 ms
  Loss rate: 0.18%
-- Flow 3:
  Average throughput: 52.74 Mbit/s
  95th percentile per-packet one-way delay: 356.406 ms
  Loss rate: 11.90%
Run 10: Report of Verus — Data Link
Run 1: Statistics of Copa

End at: 2018-01-26 23:47:43

# Below is generated by plot.py at 2018-01-27 05:30:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 16.55 Mbit/s
  95th percentile per-packet one-way delay: 162.457 ms
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 10.11 Mbit/s
  95th percentile per-packet one-way delay: 162.457 ms
  Loss rate: 0.83%
-- Flow 2:
  Average throughput: 10.12 Mbit/s
  95th percentile per-packet one-way delay: 162.458 ms
  Loss rate: 0.93%
-- Flow 3:
  Average throughput: 0.12 Mbit/s
  95th percentile per-packet one-way delay: 162.859 ms
  Loss rate: 0.00%
Run 1: Report of Copa — Data Link

![Data Link Throughput Graph](image1)

![Data Link Delay Graph](image2)
Run 2: Statistics of Copa

Start at: 2018-01-27 00:02:51
End at: 2018-01-27 00:03:21

# Below is generated by plot.py at 2018-01-27 05:30:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 9.25 Mbit/s
  95th percentile per-packet one-way delay: 162.528 ms
  Loss rate: 3.84%
-- Flow 1:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 136.935 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 10.32 Mbit/s
  95th percentile per-packet one-way delay: 162.519 ms
  Loss rate: 2.68%
-- Flow 3:
  Average throughput: 9.61 Mbit/s
  95th percentile per-packet one-way delay: 162.547 ms
  Loss rate: 6.58%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2018-01-27 00:18:36
End at: 2018-01-27 00:19:06

# Below is generated by plot.py at 2018-01-27 05:30:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.35 Mbit/s
95th percentile per-packet one-way delay: 136.226 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 76.10 Mbit/s
95th percentile per-packet one-way delay: 136.205 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 136.395 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 136.295 ms
Loss rate: 12.04%
Run 3: Report of Copa — Data Link

[Graph showing throughput and packet delay over time for different flows with specified mean rates and 95th percentile delays.]
Run 4: Statistics of Copa

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 05:30:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.50 Mbit/s
95th percentile per-packet one-way delay: 136.577 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 65.31 Mbit/s
95th percentile per-packet one-way delay: 136.644 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 136.301 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 48.01 Mbit/s
95th percentile per-packet one-way delay: 135.889 ms
Loss rate: 7.36%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2018-01-27 00:51:39
End at: 2018-01-27 00:52:09

# Below is generated by plot.py at 2018-01-27 05:31:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.56 Mbit/s
95th percentile per-packet one-way delay: 136.590 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 69.23 Mbit/s
95th percentile per-packet one-way delay: 136.307 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 136.751 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 47.18 Mbit/s
95th percentile per-packet one-way delay: 136.341 ms
Loss rate: 8.67%
Run 5: Report of Copa — Data Link

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

- **Flow 1 ingress (mean 68.73 Mbps)**
- **Flow 1 egress (mean 69.23 Mbps)**
- **Flow 2 ingress (mean 53.95 Mbps)**
- **Flow 2 egress (mean 53.76 Mbps)**
- **Flow 3 ingress (mean 49.87 Mbps)**
- **Flow 3 egress (mean 47.18 Mbps)**

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

- **Flow 1 (95th percentile 136.31 ms)**
- **Flow 2 (95th percentile 136.75 ms)**
- **Flow 3 (95th percentile 136.34 ms)**
Run 6: Statistics of Copa

Start at: 2018-01-27 01:08:01
End at: 2018-01-27 01:08:31

# Below is generated by plot.py at 2018-01-27 05:31:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.00 Mbit/s
95th percentile per-packet one-way delay: 136.568 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 63.56 Mbit/s
95th percentile per-packet one-way delay: 136.594 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 55.60 Mbit/s
95th percentile per-packet one-way delay: 136.529 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 136.553 ms
Loss rate: 7.48%
Run 6: Report of Copa — Data Link

![Graph](image1)

![Graph](image2)
Run 7: Statistics of Copa

Start at: 2018-01-27 01:23:51
End at: 2018-01-27 01:24:21

# Below is generated by plot.py at 2018-01-27 05:31:20
# Datalink statistics

-- Total of 3 flows:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 136.617 ms
Loss rate: 2.18%

-- Flow 1:
Average throughput: 64.61 Mbit/s
95th percentile per-packet one-way delay: 136.588 ms
Loss rate: 1.19%

-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 137.904 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 37.11 Mbit/s
95th percentile per-packet one-way delay: 136.735 ms
Loss rate: 8.01%
Run 7: Report of Copa — Data Link

Graph 1: Throughput (Mbps)

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

Legend:
- Flow 1 ingress (mean 64.74 Mbit/s)
- Flow 1 egress (mean 64.61 Mbit/s)
- Flow 2 ingress (mean 0.21 Mbit/s)
- Flow 2 egress (mean 0.21 Mbit/s)
- Flow 3 ingress (mean 36.53 Mbit/s)
- Flow 3 egress (mean 37.11 Mbit/s)
Run 8: Statistics of Copa

Start at: 2018-01-27 01:40:09
End at: 2018-01-27 01:40:39

# Below is generated by plot.py at 2018-01-27 05:31:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 55.10 Mbit/s
  95th percentile per-packet one-way delay: 162.684 ms
  Loss rate: 0.68%
-- Flow 1:
  Average throughput: 32.94 Mbit/s
  95th percentile per-packet one-way delay: 162.689 ms
  Loss rate: 0.14%
-- Flow 2:
  Average throughput: 32.87 Mbit/s
  95th percentile per-packet one-way delay: 162.644 ms
  Loss rate: 1.02%
-- Flow 3:
  Average throughput: 4.47 Mbit/s
  95th percentile per-packet one-way delay: 162.777 ms
  Loss rate: 8.54%
Run 8: Report of Copa — Data Link
Run 9: Statistics of Copa

Start at: 2018-01-27 01:55:30
End at: 2018-01-27 01:56:00

# Below is generated by plot.py at 2018-01-27 05:32:53
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 110.14 Mbit/s
   95th percentile per-packet one-way delay: 136.892 ms
   Loss rate: 1.90%
   -- Flow 1:
   Average throughput: 58.59 Mbit/s
   95th percentile per-packet one-way delay: 136.945 ms
   Loss rate: 0.90%
   -- Flow 2:
   Average throughput: 62.55 Mbit/s
   95th percentile per-packet one-way delay: 136.513 ms
   Loss rate: 1.37%
   -- Flow 3:
   Average throughput: 42.60 Mbit/s
   95th percentile per-packet one-way delay: 136.526 ms
   Loss rate: 8.18%
Run 9: Report of Copa — Data Link

![Graphs showing throughput and packet delay over time for different flows.](image-url)
Run 10: Statistics of Copa

Start at: 2018-01-27 02:11:02
End at: 2018-01-27 02:11:32

# Below is generated by plot.py at 2018-01-27 05:32:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 18.94 Mbit/s
  95th percentile per-packet one-way delay: 163.046 ms
  Loss rate: 1.84%
-- Flow 1:
  Average throughput: 10.00 Mbit/s
  95th percentile per-packet one-way delay: 163.046 ms
  Loss rate: 1.05%
-- Flow 2:
  Average throughput: 9.84 Mbit/s
  95th percentile per-packet one-way delay: 163.043 ms
  Loss rate: 1.22%
-- Flow 3:
  Average throughput: 9.71 Mbit/s
  95th percentile per-packet one-way delay: 163.053 ms
  Loss rate: 6.03%
Run 10: Report of Copa — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 9.97 Mbps)
Flow 1 egress (mean 10.00 Mbps)
Flow 2 ingress (mean 9.93 Mbps)
Flow 2 egress (mean 9.84 Mbps)
Flow 3 ingress (mean 10.16 Mbps)
Flow 3 egress (mean 9.71 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 163.05 ms)
Flow 2 (95th percentile 163.04 ms)
Flow 3 (95th percentile 163.05 ms)
Run 1: Statistics of Indigo-2-256

Start at: 2018-01-26 23:46:01
End at: 2018-01-26 23:46:31

# Below is generated by plot.py at 2018-01-27 05:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.85 Mbit/s
95th percentile per-packet one-way delay: 162.433 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 139.61 Mbit/s
95th percentile per-packet one-way delay: 162.460 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 134.95 Mbit/s
95th percentile per-packet one-way delay: 136.269 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 102.34 Mbit/s
95th percentile per-packet one-way delay: 137.365 ms
Loss rate: 3.73%
Run 1: Report of Indigo-2-256 — Data Link

```
Run 1
```

```
Run 1
```

```
Run 1
```
Run 2: Statistics of Indigo-2-256

Start at: 2018-01-27 00:01:40
End at: 2018-01-27 00:02:10

# Below is generated by plot.py at 2018-01-27 05:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 248.31 Mbit/s
95th percentile per-packet one-way delay: 162.909 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 136.32 Mbit/s
95th percentile per-packet one-way delay: 162.822 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 121.25 Mbit/s
95th percentile per-packet one-way delay: 162.916 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 99.73 Mbit/s
95th percentile per-packet one-way delay: 163.272 ms
Loss rate: 4.71%
Run 2: Report of Indigo-2-256 — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.](image-url)
Run 3: Statistics of Indigo-2-256

Start at: 2018-01-27 00:17:22
End at: 2018-01-27 00:17:52

# Below is generated by plot.py at 2018-01-27 05:35:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 277.78 Mbit/s
  95th percentile per-packet one-way delay: 136.173 ms
  Loss rate: 1.44%
-- Flow 1:
  Average throughput: 148.31 Mbit/s
  95th percentile per-packet one-way delay: 136.049 ms
  Loss rate: 0.90%
-- Flow 2:
  Average throughput: 138.85 Mbit/s
  95th percentile per-packet one-way delay: 136.200 ms
  Loss rate: 1.44%
-- Flow 3:
  Average throughput: 117.59 Mbit/s
  95th percentile per-packet one-way delay: 136.553 ms
  Loss rate: 3.53%
Run 3: Report of Indigo-2-256 — Data Link

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

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Run 4: Statistics of Indigo-2-256

Start at: 2018-01-27 00:33:48
End at: 2018-01-27 00:34:18

# Below is generated by plot.py at 2018-01-27 05:35:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 256.60 Mbit/s
  95th percentile per-packet one-way delay: 136.596 ms
  Loss rate: 1.56%
-- Flow 1:
  Average throughput: 135.02 Mbit/s
  95th percentile per-packet one-way delay: 136.436 ms
  Loss rate: 1.02%
-- Flow 2:
  Average throughput: 133.87 Mbit/s
  95th percentile per-packet one-way delay: 136.736 ms
  Loss rate: 1.58%
-- Flow 3:
  Average throughput: 105.76 Mbit/s
  95th percentile per-packet one-way delay: 137.060 ms
  Loss rate: 3.65%
Run 4: Report of Indigo-2-256 — Data Link

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

- **Throughput** (Mbps):
  - Flow 1 ingress (mean 135.16 Mbps)
  - Flow 1 egress (mean 135.02 Mbps)
  - Flow 2 ingress (mean 134.13 Mbps)
  - Flow 2 egress (mean 133.87 Mbps)
  - Flow 3 ingress (mean 136.68 Mbps)
  - Flow 3 egress (mean 105.76 Mbps)

- **Packet Delay (ms)**:
  - Flow 1 (95th percentile 136.44 ms)
  - Flow 2 (95th percentile 136.74 ms)
  - Flow 3 (95th percentile 137.06 ms)
Run 5: Statistics of Indigo-2-256

Start at: 2018-01-27 00:50:27
End at: 2018-01-27 00:50:57

# Below is generated by plot.py at 2018-01-27 05:35:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 269.54 Mbit/s
  95th percentile per-packet one-way delay: 136.517 ms
  Loss rate: 1.58%
-- Flow 1:
  Average throughput: 145.36 Mbit/s
  95th percentile per-packet one-way delay: 136.449 ms
  Loss rate: 1.19%
-- Flow 2:
  Average throughput: 136.05 Mbit/s
  95th percentile per-packet one-way delay: 136.518 ms
  Loss rate: 1.41%
-- Flow 3:
  Average throughput: 106.84 Mbit/s
  95th percentile per-packet one-way delay: 136.831 ms
  Loss rate: 3.60%
Run 5: Report of Indigo-2-256 — Data Link
Run 6: Statistics of Indigo-2-256

Start at: 2018-01-27 01:06:49
End at: 2018-01-27 01:07:19

# Below is generated by plot.py at 2018-01-27 05:35:29
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 258.54 Mbit/s
  95th percentile per-packet one-way delay: 136.559 ms
  Loss rate: 1.41%
-- Flow 1:
  Average throughput: 138.17 Mbit/s
  95th percentile per-packet one-way delay: 136.527 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 127.84 Mbit/s
  95th percentile per-packet one-way delay: 136.600 ms
  Loss rate: 1.51%
-- Flow 3:
  Average throughput: 111.91 Mbit/s
  95th percentile per-packet one-way delay: 136.644 ms
  Loss rate: 3.80%
Run 6: Report of Indigo-2-256 — Data Link

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

- Flow 1 ingress (mean 137.89 Mbit/s)
- Flow 1 egress (mean 138.17 Mbit/s)
- Flow 2 ingress (mean 127.99 Mbit/s)
- Flow 2 egress (mean 127.84 Mbit/s)
- Flow 3 ingress (mean 113.06 Mbit/s)
- Flow 3 egress (mean 111.91 Mbit/s)

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

- Flow 1 (95th percentile 136.53 ms)
- Flow 2 (95th percentile 136.60 ms)
- Flow 3 (95th percentile 136.64 ms)
Run 7: Statistics of Indigo-2-256

Start at: 2018-01-27 01:22:52
End at: 2018-01-27 01:23:22

# Below is generated by plot.py at 2018-01-27 05:35:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.54 Mbit/s
95th percentile per-packet one-way delay: 162.797 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 83.73 Mbit/s
95th percentile per-packet one-way delay: 162.825 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 162.926 ms
Loss rate: 3.37%
-- Flow 3:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 136.738 ms
Loss rate: 4.26%
Run 7: Report of Indigo-2-256 — Data Link
Run 8: Statistics of Indigo-2-256

Start at: 2018-01-27 01:38:59
End at: 2018-01-27 01:39:29

# Below is generated by plot.py at 2018-01-27 05:37:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.13 Mbit/s
95th percentile per-packet one-way delay: 163.037 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 124.27 Mbit/s
95th percentile per-packet one-way delay: 163.024 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 123.98 Mbit/s
95th percentile per-packet one-way delay: 163.004 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 103.08 Mbit/s
95th percentile per-packet one-way delay: 163.153 ms
Loss rate: 4.29%
Run 8: Report of Indigo-2-256 — Data Link

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

![Graph 2: Per-packet one-way delay vs Time](image2)
Run 9: Statistics of Indigo-2-256

Start at: 2018-01-27 01:54:32
End at: 2018-01-27 01:55:02

# Below is generated by plot.py at 2018-01-27 05:37:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 101.96 Mbit/s
  95th percentile per-packet one-way delay: 163.094 ms
  Loss rate: 1.85%
-- Flow 1:
  Average throughput: 64.26 Mbit/s
  95th percentile per-packet one-way delay: 163.129 ms
  Loss rate: 1.10%
-- Flow 2:
  Average throughput: 6.37 Mbit/s
  95th percentile per-packet one-way delay: 163.200 ms
  Loss rate: 2.47%
-- Flow 3:
  Average throughput: 104.40 Mbit/s
  95th percentile per-packet one-way delay: 137.162 ms
  Loss rate: 3.19%
Run 9: Report of Indigo-2-256 — Data Link
Run 10: Statistics of Indigo-2-256

Start at: 2018-01-27 02:09:49
End at: 2018-01-27 02:10:19

# Below is generated by plot.py at 2018-01-27 05:38:57
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 265.53 Mbit/s
 95th percentile per-packet one-way delay: 163.033 ms
 Loss rate: 1.48%
 -- Flow 1:
 Average throughput: 143.93 Mbit/s
 95th percentile per-packet one-way delay: 163.059 ms
 Loss rate: 0.92%
 -- Flow 2:
 Average throughput: 138.19 Mbit/s
 95th percentile per-packet one-way delay: 138.590 ms
 Loss rate: 1.46%
 -- Flow 3:
 Average throughput: 94.26 Mbit/s
 95th percentile per-packet one-way delay: 139.963 ms
 Loss rate: 4.10%
Run 10: Report of Indigo-2-256 — Data Link

[Graph showing throughput and packet latency over time for different flows with indicated mean rates and 95th percentile delays.]
Run 1: Statistics of Indigo-1-32

Start at: 2018-01-26 23:41:20  
End at: 2018-01-26 23:41:50

# Below is generated by plot.py at 2018-01-27 05:39:27  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 293.92 Mbit/s  
  95th percentile per-packet one-way delay: 135.955 ms  
  Loss rate: 1.33%  
  -- Flow 1:  
    Average throughput: 159.26 Mbit/s  
    95th percentile per-packet one-way delay: 135.906 ms  
    Loss rate: 0.83%  
  -- Flow 2:  
    Average throughput: 144.21 Mbit/s  
    95th percentile per-packet one-way delay: 135.942 ms  
    Loss rate: 1.36%  
  -- Flow 3:  
    Average throughput: 122.34 Mbit/s  
    95th percentile per-packet one-way delay: 136.190 ms  
    Loss rate: 3.25%
Run 1: Report of Indigo-1-32 — Data Link

1. Throughout (Mbps)
   - Flow 1 ingress (mean 159.12 Mbps)
   - Flow 1 egress (mean 159.26 Mbps)
   - Flow 2 ingress (mean 144.19 Mbps)
   - Flow 2 egress (mean 144.21 Mbps)
   - Flow 3 ingress (mean 122.92 Mbps)
   - Flow 3 egress (mean 122.34 Mbps)

2. Per-packet one-way delay (ms)
   - Flow 1 (95th percentile 135.91 ms)
   - Flow 2 (95th percentile 135.94 ms)
   - Flow 3 (95th percentile 136.19 ms)
Run 2: Statistics of Indigo-1-32

Start at: 2018-01-26 23:57:08
End at: 2018-01-26 23:57:38

# Below is generated by plot.py at 2018-01-27 05:39:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 270.91 Mbit/s
  95th percentile per-packet one-way delay: 163.046 ms
  Loss rate: 1.72%
-- Flow 1:
  Average throughput: 136.86 Mbit/s
  95th percentile per-packet one-way delay: 162.733 ms
  Loss rate: 1.33%
-- Flow 2:
  Average throughput: 143.06 Mbit/s
  95th percentile per-packet one-way delay: 163.163 ms
  Loss rate: 1.51%
-- Flow 3:
  Average throughput: 123.47 Mbit/s
  95th percentile per-packet one-way delay: 163.992 ms
  Loss rate: 3.48%
Run 2: Report of Indigo-1-32 — Data Link
Run 3: Statistics of Indigo-1-32

Start at: 2018-01-27 00:12:46
End at: 2018-01-27 00:13:16

# Below is generated by plot.py at 2018-01-27 05:39:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 263.61 Mbit/s
  95th percentile per-packet one-way delay: 162.557 ms
  Loss rate: 1.33%
  -- Flow 1:
    Average throughput: 130.59 Mbit/s
    95th percentile per-packet one-way delay: 162.548 ms
    Loss rate: 0.81%
  -- Flow 2:
    Average throughput: 140.98 Mbit/s
    95th percentile per-packet one-way delay: 162.576 ms
    Loss rate: 1.33%
  -- Flow 3:
    Average throughput: 124.23 Mbit/s
    95th percentile per-packet one-way delay: 162.543 ms
    Loss rate: 2.99%
Run 3: Report of Indigo-1-32 — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 130.44 Mbps)
- Flow 1 egress (mean 130.59 Mbps)
- Flow 2 ingress (mean 140.91 Mbps)
- Flow 2 egress (mean 140.98 Mbps)
- Flow 3 ingress (mean 124.58 Mbps)
- Flow 3 egress (mean 124.23 Mbps)

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

- Flow 1 (95th percentile 162.55 ms)
- Flow 2 (95th percentile 162.58 ms)
- Flow 3 (95th percentile 162.54 ms)

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Run 4: Statistics of Indigo-1-32

Start at: 2018-01-27 00:29:10
End at: 2018-01-27 00:29:40

# Below is generated by plot.py at 2018-01-27 05:39:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.98 Mbit/s
95th percentile per-packet one-way delay: 136.386 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 150.76 Mbit/s
95th percentile per-packet one-way delay: 136.337 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 150.12 Mbit/s
95th percentile per-packet one-way delay: 136.396 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 105.95 Mbit/s
95th percentile per-packet one-way delay: 136.659 ms
Loss rate: 3.65%
Run 4: Report of Indigo-1-32 — Data Link

![Graphs showing throughput and packet delay for different flows.]

- **Flow 1 ingress (mean 150.86 Mbit/s)**
- **Flow 1 egress (mean 150.76 Mbit/s)**
- **Flow 2 ingress (mean 150.83 Mbit/s)**
- **Flow 2 egress (mean 150.12 Mbit/s)**
- **Flow 3 ingress (mean 196.04 Mbit/s)**
- **Flow 3 egress (mean 105.95 Mbit/s)**

![Graphs showing packet delay for different flows.]

- **Flow 1 (95th percentile 136.34 ms)**
- **Flow 2 (95th percentile 136.40 ms)**
- **Flow 3 (95th percentile 136.66 ms)**
Run 5: Statistics of Indigo-1-32

Start at: 2018-01-27 00:45:44
End at: 2018-01-27 00:46:14

# Below is generated by plot.py at 2018-01-27 05:40:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 305.09 Mbit/s
  95th percentile per-packet one-way delay: 136.828 ms
  Loss rate: 1.32%
-- Flow 1:
  Average throughput: 160.15 Mbit/s
  95th percentile per-packet one-way delay: 136.623 ms
  Loss rate: 0.88%
-- Flow 2:
  Average throughput: 154.07 Mbit/s
  95th percentile per-packet one-way delay: 136.762 ms
  Loss rate: 1.24%
-- Flow 3:
  Average throughput: 134.46 Mbit/s
  95th percentile per-packet one-way delay: 137.887 ms
  Loss rate: 3.08%
Run 6: Statistics of Indigo-1-32

Start at: 2018-01-27 01:02:12
End at: 2018-01-27 01:02:42

# Below is generated by plot.py at 2018-01-27 05:40:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.34 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 142.89 Mbit/s
95th percentile per-packet one-way delay: 136.414 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 139.66 Mbit/s
95th percentile per-packet one-way delay: 136.498 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 116.08 Mbit/s
95th percentile per-packet one-way delay: 136.373 ms
Loss rate: 3.34%
Run 6: Report of Indigo-1-32 — Data Link

[Graphs showing throughput and end-to-end delay over time for different flows]
Run 7: Statistics of Indigo-1-32

Start at: 2018-01-27 01:18:16
End at: 2018-01-27 01:18:46

# Below is generated by plot.py at 2018-01-27 05:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.16 Mbit/s
95th percentile per-packet one-way delay: 136.936 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 122.21 Mbit/s
95th percentile per-packet one-way delay: 136.821 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 124.13 Mbit/s
95th percentile per-packet one-way delay: 136.986 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 108.75 Mbit/s
95th percentile per-packet one-way delay: 137.165 ms
Loss rate: 3.44%
Run 7: Report of Indigo-1-32 — Data Link

![Graph of Throughput and Delay](image-url)
Run 8: Statistics of Indigo-1-32

Start at: 2018-01-27 01:34:24
End at: 2018-01-27 01:34:54

# Below is generated by plot.py at 2018-01-27 05:43:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 278.57 Mbit/s
  95th percentile per-packet one-way delay: 162.800 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 147.53 Mbit/s
  95th percentile per-packet one-way delay: 162.805 ms
  Loss rate: 0.86%
-- Flow 2:
  Average throughput: 139.30 Mbit/s
  95th percentile per-packet one-way delay: 162.812 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 121.47 Mbit/s
  95th percentile per-packet one-way delay: 162.744 ms
  Loss rate: 3.28%
Run 9: Statistics of Indigo-1-32

Start at: 2018-01-27 01:49:59
End at: 2018-01-27 01:50:29

# Below is generated by plot.py at 2018-01-27 05:43:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.37 Mbit/s
95th percentile per-packet one-way delay: 163.447 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 120.70 Mbit/s
95th percentile per-packet one-way delay: 163.380 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 116.99 Mbit/s
95th percentile per-packet one-way delay: 163.485 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 94.78 Mbit/s
95th percentile per-packet one-way delay: 163.630 ms
Loss rate: 4.10%
Run 9: Report of Indigo-1-32 — Data Link
Run 10: Statistics of Indigo-1-32

Start at: 2018-01-27 02:05:12
End at: 2018-01-27 02:05:42

# Below is generated by plot.py at 2018-01-27 05:43:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.81 Mbit/s
95th percentile per-packet one-way delay: 163.059 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 121.98 Mbit/s
95th percentile per-packet one-way delay: 163.118 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 123.09 Mbit/s
95th percentile per-packet one-way delay: 136.839 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 107.27 Mbit/s
95th percentile per-packet one-way delay: 136.950 ms
Loss rate: 3.11%
Run 10: Report of Indigo-1-32 — Data Link
Run 1: Statistics of Indigo-1-128

Start at: 2018-01-26 23:37:55
End at: 2018-01-26 23:38:25

# Below is generated by plot.py at 2018-01-27 05:43:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 260.18 Mbit/s
  95th percentile per-packet one-way delay: 136.854 ms
  Loss rate: 1.50%
-- Flow 1:
  Average throughput: 136.66 Mbit/s
  95th percentile per-packet one-way delay: 136.447 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 133.01 Mbit/s
  95th percentile per-packet one-way delay: 136.909 ms
  Loss rate: 1.50%
-- Flow 3:
  Average throughput: 110.65 Mbit/s
  95th percentile per-packet one-way delay: 138.011 ms
  Loss rate: 3.57%
Run 1: Report of Indigo-1-128 — Data Link
Run 2: Statistics of Indigo-1-128

Start at: 2018-01-26 23:54:19
End at: 2018-01-26 23:54:49

# Below is generated by plot.py at 2018-01-27 05:43:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 233.84 Mbit/s
  95th percentile per-packet one-way delay: 167.166 ms
  Loss rate: 1.66%
-- Flow 1:
  Average throughput: 123.81 Mbit/s
  95th percentile per-packet one-way delay: 164.989 ms
  Loss rate: 1.12%
-- Flow 2:
  Average throughput: 119.37 Mbit/s
  95th percentile per-packet one-way delay: 167.697 ms
  Loss rate: 1.48%
-- Flow 3:
  Average throughput: 96.71 Mbit/s
  95th percentile per-packet one-way delay: 171.830 ms
  Loss rate: 4.21%
Run 2: Report of Indigo-1-128 — Data Link
Run 3: Statistics of Indigo-1-128

Start at: 2018-01-27 00:09:24
End at: 2018-01-27 00:09:54

# Below is generated by plot.py at 2018-01-27 05:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.51 Mbit/s
95th percentile per-packet one-way delay: 162.478 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 135.26 Mbit/s
95th percentile per-packet one-way delay: 162.507 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 128.32 Mbit/s
95th percentile per-packet one-way delay: 136.154 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 107.21 Mbit/s
95th percentile per-packet one-way delay: 136.614 ms
Loss rate: 3.81%
Run 3: Report of Indigo-1-128 — Data Link

**Throughput (Mbit/s)**

- **Flow 1 ingress (mean 135.57 Mbit/s)**
- **Flow 1 egress (mean 135.26 Mbit/s)**
- **Flow 2 ingress (mean 128.57 Mbit/s)**
- **Flow 2 egress (mean 128.32 Mbit/s)**
- **Flow 3 ingress (mean 108.35 Mbit/s)**
- **Flow 3 egress (mean 107.21 Mbit/s)**

**Packet per packet one-way delay (ms)**

- **Flow 1 (95th percentile 162.51 ms)**
- **Flow 2 (95th percentile 136.15 ms)**
- **Flow 3 (95th percentile 136.61 ms)**
Run 4: Statistics of Indigo-1-128

Start at: 2018-01-27 00:25:46
End at: 2018-01-27 00:26:16

# Below is generated by plot.py at 2018-01-27 05:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.83 Mbit/s
95th percentile per-packet one-way delay: 138.536 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 126.13 Mbit/s
95th percentile per-packet one-way delay: 138.863 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 125.96 Mbit/s
95th percentile per-packet one-way delay: 137.777 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 110.05 Mbit/s
95th percentile per-packet one-way delay: 138.948 ms
Loss rate: 3.74%
Run 4: Report of Indigo-1-128 — Data Link

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

- Flow 1 ingress (mean 126.27 Mbit/s)
- Flow 1 egress (mean 126.13 Mbit/s)
- Flow 2 ingress (mean 126.23 Mbit/s)
- Flow 2 egress (mean 125.96 Mbit/s)
- Flow 3 ingress (mean 111.15 Mbit/s)
- Flow 3 egress (mean 110.05 Mbit/s)

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

- Flow 1 (95th percentile 138.96 ms)
- Flow 2 (95th percentile 137.78 ms)
- Flow 3 (95th percentile 138.95 ms)
Run 5: Statistics of Indigo-1-128

Start at: 2018-01-27 00:42:20
End at: 2018-01-27 00:42:50

# Below is generated by plot.py at 2018-01-27 05:45:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.95 Mbit/s
95th percentile per-packet one-way delay: 139.799 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 128.51 Mbit/s
95th percentile per-packet one-way delay: 140.005 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 130.90 Mbit/s
95th percentile per-packet one-way delay: 139.210 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 112.28 Mbit/s
95th percentile per-packet one-way delay: 139.521 ms
Loss rate: 3.62%
Run 5: Report of Indigo-1-128 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 128.34 Mbps)
Flow 1 egress (mean 128.51 Mbps)
Flow 2 ingress (mean 130.72 Mbps)
Flow 2 egress (mean 130.90 Mbps)
Flow 3 ingress (mean 113.22 Mbps)
Flow 3 egress (mean 112.28 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 140.00 ms)
Flow 2 (95th percentile 139.21 ms)
Flow 3 (95th percentile 139.52 ms)
Run 6: Statistics of Indigo-1-128

Start at: 2018-01-27 00:59:02
End at: 2018-01-27 00:59:32

# Below is generated by plot.py at 2018-01-27 05:46:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.60 Mbit/s
95th percentile per-packet one-way delay: 136.500 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 135.05 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 124.73 Mbit/s
95th percentile per-packet one-way delay: 136.526 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 109.61 Mbit/s
95th percentile per-packet one-way delay: 137.717 ms
Loss rate: 3.74%
Run 6: Report of Indigo-1-128 — Data Link
Run 7: Statistics of Indigo-1-128

Start at: 2018-01-27 01:15:07
End at: 2018-01-27 01:15:37

# Below is generated by plot.py at 2018-01-27 05:46:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 240.96 Mbit/s
  95th percentile per-packet one-way delay: 136.730 ms
  Loss rate: 1.61%
-- Flow 1:
  Average throughput: 125.52 Mbit/s
  95th percentile per-packet one-way delay: 136.704 ms
  Loss rate: 1.02%
-- Flow 2:
  Average throughput: 123.06 Mbit/s
  95th percentile per-packet one-way delay: 136.720 ms
  Loss rate: 1.58%
-- Flow 3:
  Average throughput: 106.12 Mbit/s
  95th percentile per-packet one-way delay: 137.090 ms
  Loss rate: 3.82%
Run 7: Report of Indigo-1-128 — Data Link

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

- Flow 1 ingress (mean 125.65 Mbit/s)
- Flow 1 egress (mean 125.52 Mbit/s)
- Flow 2 ingress (mean 123.28 Mbit/s)
- Flow 2 egress (mean 123.06 Mbit/s)
- Flow 3 ingress (mean 107.25 Mbit/s)
- Flow 3 egress (mean 106.12 Mbit/s)

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

- Flow 1 (95th percentile 136.70 ms)
- Flow 2 (95th percentile 136.72 ms)
- Flow 3 (95th percentile 137.09 ms)
Run 8: Statistics of Indigo-1-128

Start at: 2018-01-27 01:31:02
End at: 2018-01-27 01:31:32

# Below is generated by plot.py at 2018-01-27 05:46:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.88 Mbit/s
95th percentile per-packet one-way delay: 162.730 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 133.14 Mbit/s
95th percentile per-packet one-way delay: 162.762 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 136.83 Mbit/s
95th percentile per-packet one-way delay: 139.673 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 109.79 Mbit/s
95th percentile per-packet one-way delay: 140.881 ms
Loss rate: 3.54%
Run 8: Report of Indigo-1-128 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 133.27 Mbps)
Flow 1 egress (mean 133.14 Mbps)
Flow 2 ingress (mean 136.80 Mbps)
Flow 2 egress (mean 136.83 Mbps)
Flow 3 ingress (mean 110.64 Mbps)
Flow 3 egress (mean 109.79 Mbps)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 162.76 ms)
Flow 2 (95th percentile 139.67 ms)
Flow 3 (95th percentile 140.88 ms)
Run 9: Statistics of Indigo-1-128

Start at: 2018-01-27 01:47:11
End at: 2018-01-27 01:47:41

# Below is generated by plot.py at 2018-01-27 05:46:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 221.98 Mbit/s
  95th percentile per-packet one-way delay: 163.667 ms
  Loss rate: 1.74%
-- Flow 1:
  Average throughput: 116.47 Mbit/s
  95th percentile per-packet one-way delay: 163.436 ms
  Loss rate: 1.09%
-- Flow 2:
  Average throughput: 113.08 Mbit/s
  95th percentile per-packet one-way delay: 163.742 ms
  Loss rate: 1.72%
-- Flow 3:
  Average throughput: 95.84 Mbit/s
  95th percentile per-packet one-way delay: 165.901 ms
  Loss rate: 4.18%
Run 10: Statistics of Indigo-1-128

Start at: 2018-01-27 02:02:16
End at: 2018-01-27 02:02:46

# Below is generated by plot.py at 2018-01-27 05:46:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 236.61 Mbit/s
  95th percentile per-packet one-way delay: 163.138 ms
  Loss rate: 1.61%
-- Flow 1:
  Average throughput: 123.16 Mbit/s
  95th percentile per-packet one-way delay: 163.153 ms
  Loss rate: 1.05%
-- Flow 2:
  Average throughput: 122.87 Mbit/s
  95th percentile per-packet one-way delay: 163.160 ms
  Loss rate: 1.52%
-- Flow 3:
  Average throughput: 100.67 Mbit/s
  95th percentile per-packet one-way delay: 137.242 ms
  Loss rate: 3.86%
Run 10: Report of Indigo-1-128 — Data Link

![Graph of Throughput vs Time](image1)

- Flow 1 ingress (mean 123.34 Mbit/s)
- Flow 1 egress (mean 123.16 Mbit/s)
- Flow 2 ingress (mean 122.03 Mbit/s)
- Flow 2 egress (mean 122.87 Mbit/s)
- Flow 3 ingress (mean 101.74 Mbit/s)
- Flow 3 egress (mean 100.67 Mbit/s)

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

- Flow 1 (95th percentile 163.15 ms)
- Flow 2 (95th percentile 163.16 ms)
- Flow 3 (95th percentile 137.24 ms)