Pantheon Report

Generated at 2019-02-20 18:50:29 (UTC).
Data path: GCE Sydney on ens4 (local) → GCE London on ens4 (remote).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e6594a89e93b032143cedb6ef58e662f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e826f2b179eaaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625e3a354cc2e802bd
third_party/pcc @ 1af9c958fa0d66d18b623c091a55feca872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8ac0d8fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3c9f42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3dbbb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Sydney to GCE London, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

Average throughput (Mbit/s) vs. 95th percentile one-way delay (ms)
<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>5</td>
<td>432.20</td>
<td>385.77</td>
<td>260.87</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>283.53</td>
<td>267.61</td>
<td>208.93</td>
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<tr>
<td>TCP Cubic</td>
<td>5</td>
<td>445.92</td>
<td>393.24</td>
<td>275.87</td>
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<td>FillP</td>
<td>5</td>
<td>442.93</td>
<td>331.57</td>
<td>230.81</td>
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<tr>
<td>FillP-Sheep</td>
<td>5</td>
<td>490.75</td>
<td>323.63</td>
<td>187.46</td>
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<td>Indigo</td>
<td>5</td>
<td>161.12</td>
<td>153.99</td>
<td>126.07</td>
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<td>Indigo-MusesC3</td>
<td>5</td>
<td>416.54</td>
<td>357.08</td>
<td>257.91</td>
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<td>Indigo-MusesC5</td>
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<td>358.74</td>
<td>321.82</td>
<td>88.26</td>
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<tr>
<td>Indigo-MusesD</td>
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<td>363.55</td>
<td>302.72</td>
<td>84.99</td>
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<td>Indigo-MusesT</td>
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<td>479.72</td>
<td>379.65</td>
<td>128.19</td>
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<td>LEDBAT</td>
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<td>5.26</td>
<td>3.48</td>
<td>1.71</td>
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<td>PCC-Allegro</td>
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<td>342.73</td>
<td>290.12</td>
<td>226.90</td>
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<td>PCC-Expr</td>
<td>5</td>
<td>307.67</td>
<td>224.67</td>
<td>160.91</td>
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<td>QUIC Cubic</td>
<td>5</td>
<td>46.80</td>
<td>60.06</td>
<td>55.63</td>
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<td>SCReAM</td>
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<td>0.16</td>
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<td>Sprout</td>
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<td>0.62</td>
<td>0.64</td>
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<td>114.63</td>
<td>106.83</td>
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<td>TCP Vegas</td>
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<td>379.01</td>
<td>327.44</td>
<td>231.60</td>
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<td>Verus</td>
<td>5</td>
<td>87.90</td>
<td>54.77</td>
<td>79.79</td>
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<tr>
<td>PCC-Vivace</td>
<td>5</td>
<td>288.85</td>
<td>201.78</td>
<td>156.07</td>
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<tr>
<td>WebRTC media</td>
<td>5</td>
<td>0.80</td>
<td>0.49</td>
<td>0.12</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2019-02-20 12:26:11
End at: 2019-02-20 12:26:41
Local clock offset: -0.001 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-02-20 16:42:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 754.84 Mbit/s
95th percentile per-packet one-way delay: 230.394 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 448.39 Mbit/s
95th percentile per-packet one-way delay: 229.443 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 338.19 Mbit/s
95th percentile per-packet one-way delay: 249.873 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 244.29 Mbit/s
95th percentile per-packet one-way delay: 150.161 ms
Loss rate: 0.85%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2019-02-20 13:15:21
End at: 2019-02-20 13:15:51
Local clock offset: 0.389 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-20 16:44:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 818.93 Mbit/s
95th percentile per-packet one-way delay: 232.174 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 441.26 Mbit/s
95th percentile per-packet one-way delay: 232.185 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 407.12 Mbit/s
95th percentile per-packet one-way delay: 243.949 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 320.18 Mbit/s
95th percentile per-packet one-way delay: 197.105 ms
Loss rate: 0.07%
Run 2: Report of TCP BBR — Data Link

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

Throughput (Mb/s)

Time (s)

Delay (ms)

Time (s)
Run 3: Statistics of TCP BBR

Start at: 2019-02-20 14:07:01
End at: 2019-02-20 14:07:31
Local clock offset: 0.042 ms
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2019-02-20 16:44:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 774.66 Mbit/s
  95th percentile per-packet one-way delay: 228.169 ms
  Loss rate: 0.62%
-- Flow 1:
  Average throughput: 441.94 Mbit/s
  95th percentile per-packet one-way delay: 232.641 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 401.67 Mbit/s
  95th percentile per-packet one-way delay: 223.497 ms
  Loss rate: 0.84%
-- Flow 3:
  Average throughput: 195.71 Mbit/s
  95th percentile per-packet one-way delay: 133.304 ms
  Loss rate: 0.00%
Run 3: Report of TCP BBR — Data Link

![Graph showing network throughput and delay](image1)

- Flow 1 ingress (mean 444.50 Mbit/s)
- Flow 1 egress (mean 441.94 Mbit/s)
- Flow 2 ingress (mean 435.06 Mbit/s)
- Flow 2 egress (mean 401.67 Mbit/s)
- Flow 3 ingress (mean 195.71 Mbit/s)
- Flow 3 egress (mean 195.71 Mbit/s)

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

- Flow 1 (95th percentile 232.64 ms)
- Flow 2 (95th percentile 223.50 ms)
- Flow 3 (95th percentile 133.30 ms)
Run 4: Statistics of TCP BBR

Start at: 2019-02-20 14:59:38
End at: 2019-02-20 15:00:08
Local clock offset: 0.015 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2019-02-20 16:44:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 717.19 Mbit/s
95th percentile per-packet one-way delay: 223.300 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 366.53 Mbit/s
95th percentile per-packet one-way delay: 246.524 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 375.80 Mbit/s
95th percentile per-packet one-way delay: 161.818 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 304.05 Mbit/s
95th percentile per-packet one-way delay: 178.423 ms
Loss rate: 0.09%
Run 4: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 369.43 Mbit/s)**
- **Flow 1 egress (mean 366.53 Mbit/s)**
- **Flow 2 ingress (mean 375.79 Mbit/s)**
- **Flow 2 egress (mean 375.85 Mbit/s)**
- **Flow 3 ingress (mean 304.32 Mbit/s)**
- **Flow 3 egress (mean 304.25 Mbit/s)**

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

- **Flow 1 (95th percentile 246.52 ms)**
- **Flow 2 (95th percentile 161.82 ms)**
- **Flow 3 (95th percentile 176.42 ms)**
Run 5: Statistics of TCP BBR

Start at: 2019-02-20 15:51:02
End at: 2019-02-20 15:51:32
Local clock offset: -0.269 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-02-20 16:44:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 813.14 Mbit/s
95th percentile per-packet one-way delay: 209.970 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 462.86 Mbit/s
95th percentile per-packet one-way delay: 200.963 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 406.09 Mbit/s
95th percentile per-packet one-way delay: 238.915 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 240.12 Mbit/s
95th percentile per-packet one-way delay: 178.960 ms
Loss rate: 0.59%
Run 5: Report of TCP BBR — Data Link

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

- **Flow 1 ing**: mean 463.37 Mbit/s
- **Flow 1 egress**: mean 462.86 Mbit/s
- **Flow 2 ing**: mean 409.15 Mbit/s
- **Flow 2 egress**: mean 406.09 Mbit/s
- **Flow 3 ing**: mean 241.55 Mbit/s
- **Flow 3 egress**: mean 240.12 Mbit/s

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

- **Flow 1 (95th percentile)**: 200.96 ms
- **Flow 2 (95th percentile)**: 238.91 ms
- **Flow 3 (95th percentile)**: 178.96 ms
Run 1: Statistics of Copa

Start at: 2019-02-20 12:23:04
End at: 2019-02-20 12:23:34
Local clock offset: 0.402 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-02-20 16:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 483.25 Mbit/s
95th percentile per-packet one-way delay: 175.361 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 237.93 Mbit/s
95th percentile per-packet one-way delay: 164.244 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 262.94 Mbit/s
95th percentile per-packet one-way delay: 187.788 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 210.68 Mbit/s
95th percentile per-packet one-way delay: 156.978 ms
Loss rate: 0.13%
Run 1: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 238.05 Mbit/s)
- Flow 1 egress (mean 237.93 Mbit/s)
- Flow 2 ingress (mean 263.01 Mbit/s)
- Flow 2 egress (mean 262.94 Mbit/s)
- Flow 3 ingress (mean 211.00 Mbit/s)
- Flow 3 egress (mean 210.68 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 164.24 ms)
- Flow 2 (95th percentile 187.79 ms)
- Flow 3 (95th percentile 156.90 ms)
Run 2: Statistics of Copa

Start at: 2019-02-20 13:12:12
End at: 2019-02-20 13:12:42
Local clock offset: 0.19 ms
Remote clock offset: 0.326 ms

# Below is generated by plot.py at 2019-02-20 16:47:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 528.47 Mbit/s
95th percentile per-packet one-way delay: 175.225 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 281.62 Mbit/s
95th percentile per-packet one-way delay: 161.039 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 266.17 Mbit/s
95th percentile per-packet one-way delay: 179.811 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 209.56 Mbit/s
95th percentile per-packet one-way delay: 141.832 ms
Loss rate: 0.00%
Run 3: Statistics of Copa

Start at: 2019-02-20 14:03:22
End at: 2019-02-20 14:03:52
Local clock offset: 0.091 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-02-20 16:47:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 518.94 Mbit/s
  95th percentile per-packet one-way delay: 159.969 ms
  Loss rate: 0.54%
  -- Flow 1:
  Average throughput: 293.74 Mbit/s
  95th percentile per-packet one-way delay: 166.266 ms
  Loss rate: 0.30%
  -- Flow 2:
  Average throughput: 243.78 Mbit/s
  95th percentile per-packet one-way delay: 146.582 ms
  Loss rate: 0.55%
  -- Flow 3:
  Average throughput: 188.61 Mbit/s
  95th percentile per-packet one-way delay: 138.532 ms
  Loss rate: 1.63%
Run 3: Report of Copa — Data Link

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

- Flow 1 ingress: mean 293.09 Mbit/s
- Flow 1 egress: mean 293.74 Mbit/s
- Flow 2 ingress: mean 243.19 Mbit/s
- Flow 2 egress: mean 243.78 Mbit/s
- Flow 3 ingress: mean 186.73 Mbit/s
- Flow 3 egress: mean 186.61 Mbit/s

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

- Flow 1 (95th percentile 166.27 ms)
- Flow 2 (95th percentile 146.58 ms)
- Flow 3 (95th percentile 138.53 ms)
Run 4: Statistics of Copa

Start at: 2019-02-20 14:55:58
End at: 2019-02-20 14:56:28
Local clock offset: -0.577 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-02-20 17:03:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 574.51 Mbit/s
95th percentile per-packet one-way delay: 169.216 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 316.47 Mbit/s
95th percentile per-packet one-way delay: 175.076 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 293.92 Mbit/s
95th percentile per-packet one-way delay: 154.436 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 185.26 Mbit/s
95th percentile per-packet one-way delay: 158.972 ms
Loss rate: 0.15%
Run 4: Report of Copa — Data Link

![Data Link Throughput Graph]

- Flow 1 ingress (mean 316.53 Mbps)
- Flow 1 egress (mean 316.47 Mbps)
- Flow 2 ingress (mean 294.06 Mbps)
- Flow 2 egress (mean 293.92 Mbps)
- Flow 3 ingress (mean 185.54 Mbps)
- Flow 3 egress (mean 185.26 Mbps)

![Data Link Delay Graph]

- Flow 1 (95th percentile 175.08 ms)
- Flow 2 (95th percentile 154.44 ms)
- Flow 3 (95th percentile 150.97 ms)
Run 5: Statistics of Copa

Start at: 2019-02-20 15:47:51
End at: 2019-02-20 15:48:21
Local clock offset: -0.05 ms
Remote clock offset: 0.31 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.79 Mbit/s
95th percentile per-packet one-way delay: 198.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 287.90 Mbit/s
95th percentile per-packet one-way delay: 149.582 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 271.25 Mbit/s
95th percentile per-packet one-way delay: 170.384 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 250.54 Mbit/s
95th percentile per-packet one-way delay: 228.569 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows, with labels for mean throughput and 95th percentile delay.]
Run 1: Statistics of TCP Cubic

Start at: 2019-02-20 12:10:19
End at: 2019-02-20 12:10:49
Local clock offset: 0.059 ms
Remote clock offset: 0.375 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 790.32 Mbit/s
95th percentile per-packet one-way delay: 201.850 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 403.68 Mbit/s
95th percentile per-packet one-way delay: 158.780 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 436.12 Mbit/s
95th percentile per-packet one-way delay: 241.072 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 289.70 Mbit/s
95th percentile per-packet one-way delay: 179.375 ms
Loss rate: 0.20%
Run 1: Report of TCP Cubic — Data Link

![Graph showing throughput over time for different flows with mean throughput values for each flow]

![Graph showing per packet one-way delay over time for different flows with percentile delay values for each flow]
Run 2: Statistics of TCP Cubic

Start at: 2019-02-20 12:58:51
End at: 2019-02-20 12:59:21
Local clock offset: -0.414 ms
Remote clock offset: 0.32 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.87 Mbit/s
95th percentile per-packet one-way delay: 196.125 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 512.09 Mbit/s
95th percentile per-packet one-way delay: 200.169 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 433.68 Mbit/s
95th percentile per-packet one-way delay: 172.141 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 332.09 Mbit/s
95th percentile per-packet one-way delay: 197.842 ms
Loss rate: 0.56%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Start at: 2019-02-20 13:49:19
End at: 2019-02-20 13:49:49
Local clock offset: -0.174 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.75 Mbit/s
95th percentile per-packet one-way delay: 216.037 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 371.14 Mbit/s
95th percentile per-packet one-way delay: 224.121 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 324.21 Mbit/s
95th percentile per-packet one-way delay: 202.046 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 203.52 Mbit/s
95th percentile per-packet one-way delay: 135.795 ms
Loss rate: 0.00%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2019-02-20 14:42:18
End at: 2019-02-20 14:42:48
Local clock offset: -0.418 ms
Remote clock offset: 0.279 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 848.33 Mbit/s
95th percentile per-packet one-way delay: 225.165 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 504.09 Mbit/s
95th percentile per-packet one-way delay: 229.258 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 348.56 Mbit/s
95th percentile per-packet one-way delay: 181.504 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 337.42 Mbit/s
95th percentile per-packet one-way delay: 236.058 ms
Loss rate: 1.15%
Run 4: Report of TCP Cubic — Data Link
Run 5: Statistics of TCP Cubic

Start at: 2019-02-20 15:33:44
End at: 2019-02-20 15:34:14
Local clock offset: -0.308 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-02-20 17:03:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 792.73 Mbit/s
95th percentile per-packet one-way delay: 178.229 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 438.61 Mbit/s
95th percentile per-packet one-way delay: 145.841 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 423.62 Mbit/s
95th percentile per-packet one-way delay: 190.666 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 216.63 Mbit/s
95th percentile per-packet one-way delay: 137.890 ms
Loss rate: 0.65%
Run 5: Report of TCP Cubic — Data Link

![Throughput and Delay Graphs]

- Flow 1 ingress (mean 438.22 Mbit/s)
- Flow 1 egress (mean 438.61 Mbit/s)
- Flow 2 ingress (mean 424.31 Mbit/s)
- Flow 2 egress (mean 423.62 Mbit/s)
- Flow 3 ingress (mean 217.53 Mbit/s)
- Flow 3 egress (mean 216.63 Mbit/s)

![Throughput and Delay Graphs]

- Flow 1 (95th percentile 145.84 ms)
- Flow 2 (95th percentile 190.67 ms)
- Flow 3 (95th percentile 137.89 ms)
Run 1: Statistics of FillP

Start at: 2019-02-20 12:37:37
End at: 2019-02-20 12:38:07
Local clock offset: 0.026 ms
Remote clock offset: -0.485 ms

# Below is generated by plot.py at 2019-02-20 17:05:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 815.29 Mbit/s
95th percentile per-packet one-way delay: 153.046 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 519.80 Mbit/s
95th percentile per-packet one-way delay: 164.851 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 330.95 Mbit/s
95th percentile per-packet one-way delay: 140.876 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 224.80 Mbit/s
95th percentile per-packet one-way delay: 133.576 ms
Loss rate: 0.00%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2019-02-20 13:26:51
End at: 2019-02-20 13:27:21
Local clock offset: -0.137 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-02-20 17:15:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 826.32 Mbit/s
95th percentile per-packet one-way delay: 137.495 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 539.53 Mbit/s
95th percentile per-packet one-way delay: 138.265 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 318.46 Mbit/s
95th percentile per-packet one-way delay: 135.528 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 227.69 Mbit/s
95th percentile per-packet one-way delay: 135.981 ms
Loss rate: 0.07%
Run 2: Report of FillP — Data Link
Run 3: Statistics of FillP

Start at: 2019-02-20 14:19:10
End at: 2019-02-20 14:19:40
Local clock offset: -0.142 ms
Remote clock offset: -0.473 ms

# Below is generated by plot.py at 2019-02-20 17:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.02 Mbit/s
95th percentile per-packet one-way delay: 153.303 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 544.01 Mbit/s
95th percentile per-packet one-way delay: 155.975 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 334.93 Mbit/s
95th percentile per-packet one-way delay: 135.915 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 235.42 Mbit/s
95th percentile per-packet one-way delay: 134.900 ms
Loss rate: 0.00%
Run 3: Report of FillP — Data Link

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

- Blue line: Flow 1 ingress (mean 544.01 Mbps)
- Dashed blue line: Flow 1 egress (mean 544.01 Mbps)
- Green line: Flow 2 ingress (mean 334.93 Mbps)
- Dashed green line: Flow 2 egress (mean 334.93 Mbps)
- Red line: Flow 3 ingress (mean 235.49 Mbps)
- Dashed red line: Flow 3 egress (mean 235.42 Mbps)

![Graph 2: Packet End-to-End Delay (ms)](image2)

- Blue line: Flow 1 (95th percentile 155.97 ms)
- Green line: Flow 2 (95th percentile 135.91 ms)
- Red line: Flow 3 (95th percentile 134.90 ms)
Run 4: Statistics of FillP

Start at: 2019-02-20 15:12:08
End at: 2019-02-20 15:12:38
Local clock offset: 0.21 ms
Remote clock offset: -0.417 ms

# Below is generated by plot.py at 2019-02-20 17:21:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 832.14 Mbit/s
  95th percentile per-packet one-way delay: 141.205 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 531.12 Mbit/s
  95th percentile per-packet one-way delay: 147.573 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 332.60 Mbit/s
  95th percentile per-packet one-way delay: 135.907 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 240.38 Mbit/s
  95th percentile per-packet one-way delay: 142.017 ms
  Loss rate: 0.00%
Run 4: Report of FillP — Data Link

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

- Flow 1 ingress (mean 531.13 Mb/s)
- Flow 1 egress (mean 531.12 Mb/s)
- Flow 2 ingress (mean 332.59 Mb/s)
- Flow 2 egress (mean 332.60 Mb/s)
- Flow 3 ingress (mean 240.39 Mb/s)
- Flow 3 egress (mean 240.38 Mb/s)

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

- Flow 1 (95th percentile 147.57 ms)
- Flow 2 (95th percentile 135.91 ms)
- Flow 3 (95th percentile 142.02 ms)
Run 5: Statistics of FillP

Start at: 2019-02-20 16:03:13
End at: 2019-02-20 16:03:43
Local clock offset: -0.521 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2019-02-20 17:21:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.54 Mbit/s
95th percentile per-packet one-way delay: 137.758 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.19 Mbit/s
95th percentile per-packet one-way delay: 139.980 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 340.92 Mbit/s
95th percentile per-packet one-way delay: 137.247 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.74 Mbit/s
95th percentile per-packet one-way delay: 137.080 ms
Loss rate: 0.00%
Run 5: Report of FillP — Data Link

![Throughput Graph]

Throughput (Mbit/s)

Time (s)

![Delay Graph]

Per packet one-way delay (ms)

Time (s)
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-20 11:58:52
End at: 2019-02-20 11:59:22
Local clock offset: 0.248 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-02-20 17:21:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 773.38 Mbit/s
95th percentile per-packet one-way delay: 136.152 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 470.05 Mbit/s
95th percentile per-packet one-way delay: 134.825 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 356.60 Mbit/s
95th percentile per-packet one-way delay: 137.548 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 199.38 Mbit/s
95th percentile per-packet one-way delay: 139.759 ms
Loss rate: 0.00%
Run 1: Report of FillP-Sheep — Data Link

Throughput (Mb/s) vs Time (s)

- Flow 1 ingress (mean 470.06 Mb/s)
- Flow 1 egress (mean 470.05 Mb/s)
- Flow 2 ingress (mean 356.60 Mb/s)
- Flow 2 egress (mean 356.60 Mb/s)
- Flow 3 ingress (mean 199.38 Mb/s)
- Flow 3 egress (mean 199.38 Mb/s)

Packet One Way Delay (ms) vs Time (s)

- Flow 1 (95th percentile 134.82 ms)
- Flow 2 (95th percentile 137.55 ms)
- Flow 3 (95th percentile 139.76 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-20 12:47:35
End at: 2019-02-20 12:48:05
Local clock offset: -0.352 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-02-20 17:21:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 813.58 Mbit/s
95th percentile per-packet one-way delay: 139.874 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 512.29 Mbit/s
95th percentile per-packet one-way delay: 145.230 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 346.43 Mbit/s
95th percentile per-packet one-way delay: 135.888 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 215.09 Mbit/s
95th percentile per-packet one-way delay: 136.594 ms
Loss rate: 0.00%
Run 2: Report of FillP-Sheep — Data Link

![Graph showing throughput and delay over time for different flows.](image-url)
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-20 13:37:43
End at: 2019-02-20 13:38:13
Local clock offset: -0.171 ms
Remote clock offset: 0.283 ms

# Below is generated by plot.py at 2019-02-20 17:21:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 775.11 Mbit/s
95th percentile per-packet one-way delay: 146.852 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 496.27 Mbit/s
95th percentile per-packet one-way delay: 152.818 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 309.51 Mbit/s
95th percentile per-packet one-way delay: 134.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 220.35 Mbit/s
95th percentile per-packet one-way delay: 135.179 ms
Loss rate: 0.00%
Run 3: Report of FillP-Sheep — Data Link

![Graphs showing throughput and packet loss over time for different flows.](image)
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-20 14:30:04
End at: 2019-02-20 14:30:34
Local clock offset: -0.423 ms
Remote clock offset: 0.239 ms

# Below is generated by plot.py at 2019-02-20 17:23:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 759.09 Mbit/s
95th percentile per-packet one-way delay: 156.961 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 492.13 Mbit/s
95th percentile per-packet one-way delay: 167.366 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 299.77 Mbit/s
95th percentile per-packet one-way delay: 135.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 204.57 Mbit/s
95th percentile per-packet one-way delay: 136.257 ms
Loss rate: 0.00%
Run 4: Report of FillP-Sheep — Data Link

**Throughput (Mbps)**

- Flow 1 Ingress (mean 493.07 Mbps)
- Flow 1 Egress (mean 492.13 Mbps)
- Flow 2 Ingress (mean 299.76 Mbps)
- Flow 2 Egress (mean 299.77 Mbps)
- Flow 3 Ingress (mean 204.57 Mbps)
- Flow 3 Egress (mean 204.57 Mbps)

**End-to-End Delay (ms)**

- Flow 1 (95th percentile 167.37 ms)
- Flow 2 (95th percentile 135.79 ms)
- Flow 3 (95th percentile 136.26 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-20 15:22:36
End at: 2019-02-20 15:23:06
Local clock offset: -0.27 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-02-20 17:28:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.73 Mbit/s
95th percentile per-packet one-way delay: 139.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 483.01 Mbit/s
95th percentile per-packet one-way delay: 140.488 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 305.83 Mbit/s
95th percentile per-packet one-way delay: 136.929 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 97.92 Mbit/s
95th percentile per-packet one-way delay: 133.745 ms
Loss rate: 0.01%
Run 5: Report of FillP-Sheep — Data Link
Run 1: Statistics of Indigo

Start at: 2019-02-20 12:33:13
End at: 2019-02-20 12:33:44
Local clock offset: 0.062 ms
Remote clock offset: 0.242 ms

# Below is generated by plot.py at 2019-02-20 17:28:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 316.30 Mbit/s
  95th percentile per-packet one-way delay: 134.902 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 162.53 Mbit/s
  95th percentile per-packet one-way delay: 134.302 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 167.19 Mbit/s
  95th percentile per-packet one-way delay: 135.476 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 133.83 Mbit/s
  95th percentile per-packet one-way delay: 135.295 ms
  Loss rate: 0.00%
Run 1: Report of Indigo — Data Link

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

End at: 2019-02-20 13:23:07
Local clock offset: -0.307 ms
Remote clock offset: -0.387 ms

# Below is generated by plot.py at 2019-02-20 17:28:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.12 Mbit/s
95th percentile per-packet one-way delay: 134.289 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 137.41 Mbit/s
95th percentile per-packet one-way delay: 134.131 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 159.75 Mbit/s
95th percentile per-packet one-way delay: 134.637 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 112.11 Mbit/s
95th percentile per-packet one-way delay: 133.875 ms
Loss rate: 0.00%
Run 2: Report of Indigo — Data Link

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

Legend:
- Flow 1 ingress (mean 137.41 Mb/s)
- Flow 1 egress (mean 137.41 Mb/s)
- Flow 2 ingress (mean 159.75 Mb/s)
- Flow 2 egress (mean 159.75 Mb/s)
- Flow 3 ingress (mean 112.11 Mb/s)
- Flow 3 egress (mean 112.11 Mb/s)

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

Legend:
- Flow 1 (95th percentile 134.13 ms)
- Flow 2 (95th percentile 134.64 ms)
- Flow 3 (95th percentile 133.88 ms)
Run 3: Statistics of Indigo

Start at: 2019-02-20 14:14:40
End at: 2019-02-20 14:15:10
Local clock offset: -0.545 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2019-02-20 17:30:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.41 Mbit/s
95th percentile per-packet one-way delay: 134.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 162.44 Mbit/s
95th percentile per-packet one-way delay: 134.904 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 122.11 Mbit/s
95th percentile per-packet one-way delay: 135.419 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 115.54 Mbit/s
95th percentile per-packet one-way delay: 133.367 ms
Loss rate: 0.00%
Run 3: Report of Indigo — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 162.44 Mbps)
- Flow 1 egress (mean 162.44 Mbps)
- Flow 2 ingress (mean 122.11 Mbps)
- Flow 2 egress (mean 122.11 Mbps)
- Flow 3 ingress (mean 115.54 Mbps)
- Flow 3 egress (mean 115.54 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 134.90 ms)
- Flow 2 (95th percentile 135.42 ms)
- Flow 3 (95th percentile 133.37 ms)
Run 4: Statistics of Indigo

Start at: 2019-02-20 15:07:00
End at: 2019-02-20 15:07:30
Local clock offset: -0.359 ms
Remote clock offset: -0.452 ms

# Below is generated by plot.py at 2019-02-20 17:32:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 311.22 Mbit/s
  95th percentile per-packet one-way delay: 134.091 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 168.02 Mbit/s
  95th percentile per-packet one-way delay: 133.980 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 158.92 Mbit/s
  95th percentile per-packet one-way delay: 133.979 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 118.63 Mbit/s
  95th percentile per-packet one-way delay: 136.932 ms
  Loss rate: 0.00%
Run 4: Report of Indigo — Data Link

![Graph showing data link performance with throughput and packet delay metrics for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 168.02 Mbps)
  - Flow 1 egress (mean 168.02 Mbps)
  - Flow 2 ingress (mean 158.92 Mbps)
  - Flow 2 egress (mean 158.92 Mbps)
  - Flow 3 ingress (mean 118.63 Mbps)
  - Flow 3 egress (mean 118.63 Mbps)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 133.98 ms)
  - Flow 2 (95th percentile 133.98 ms)
  - Flow 3 (95th percentile 116.93 ms)
Run 5: Statistics of Indigo

Start at: 2019-02-20 15:58:24
End at: 2019-02-20 15:58:54
Local clock offset: -0.732 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-02-20 17:33:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 330.13 Mbit/s
95th percentile per-packet one-way delay: 135.339 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 175.20 Mbit/s
95th percentile per-packet one-way delay: 134.653 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 161.99 Mbit/s
95th percentile per-packet one-way delay: 135.879 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 150.25 Mbit/s
95th percentile per-packet one-way delay: 135.439 ms
Loss rate: 0.00%
Run 5: Report of Indigo — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 174.99 Mbps)
  - Flow 1 egress (mean 175.20 Mbps)
  - Flow 2 ingress (mean 161.99 Mbps)
  - Flow 2 egress (mean 161.99 Mbps)
  - Flow 3 ingress (mean 150.25 Mbps)
  - Flow 3 egress (mean 150.25 Mbps)

- **Per packet one-way delay (ms):**
  - Flow 1 (95th percentile 134.65 ms)
  - Flow 2 (95th percentile 135.88 ms)
  - Flow 3 (95th percentile 135.44 ms)
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-20 12:44:59
End at: 2019-02-20 12:45:29
Local clock offset: 0.072 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-02-20 17:35:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 725.90 Mbit/s
  95th percentile per-packet one-way delay: 136.247 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 425.70 Mbit/s
  95th percentile per-packet one-way delay: 136.566 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 355.69 Mbit/s
  95th percentile per-packet one-way delay: 135.194 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 274.49 Mbit/s
  95th percentile per-packet one-way delay: 136.756 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-MusesC3 — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows.]
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-20 13:34:57
End at: 2019-02-20 13:35:27
Local clock offset: -0.06 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-02-20 17:36:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 720.68 Mbit/s
  95th percentile per-packet one-way delay: 138.961 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 424.96 Mbit/s
  95th percentile per-packet one-way delay: 137.303 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 351.99 Mbit/s
  95th percentile per-packet one-way delay: 144.010 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 256.72 Mbit/s
  95th percentile per-packet one-way delay: 136.351 ms
  Loss rate: 0.04%
Run 2: Report of Indigo-MusesC3 — Data Link
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-20 14:26:57
End at: 2019-02-20 14:27:27
Local clock offset: -0.16 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-02-20 17:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 713.66 Mbit/s
95th percentile per-packet one-way delay: 137.104 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 422.43 Mbit/s
95th percentile per-packet one-way delay: 137.559 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 367.11 Mbit/s
95th percentile per-packet one-way delay: 136.709 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 253.52 Mbit/s
95th percentile per-packet one-way delay: 136.209 ms
Loss rate: 0.00%
Run 3: Report of Indigo-MusesC3 — Data Link

![Graph 1: Throughput (Mbps)]

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

Legend:
- Flow 1 ingress (mean 422.43 Mbps)
- Flow 1 egress (mean 422.43 Mbps)
- Flow 2 ingress (mean 367.11 Mbps)
- Flow 2 egress (mean 367.11 Mbps)
- Flow 3 ingress (mean 253.48 Mbps)
- Flow 3 egress (mean 253.52 Mbps)

Legend for delay graph:
- Flow 1 (95th percentile 137.56 ms)
- Flow 2 (95th percentile 136.71 ms)
- Flow 3 (95th percentile 136.21 ms)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-20 15:19:49
End at: 2019-02-20 15:20:19
Local clock offset: -0.1 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2019-02-20 17:42:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 714.07 Mbit/s
95th percentile per-packet one-way delay: 135.587 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 419.08 Mbit/s
95th percentile per-packet one-way delay: 135.626 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 361.41 Mbit/s
95th percentile per-packet one-way delay: 135.416 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.60 Mbit/s
95th percentile per-packet one-way delay: 135.688 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesC3 — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 419.06 Mbit/s)  Flow 1 egress (mean 419.08 Mbit/s)
Flow 2 ingress (mean 361.38 Mbit/s)  Flow 2 egress (mean 361.41 Mbit/s)
Flow 3 ingress (mean 265.64 Mbit/s)  Flow 3 egress (mean 265.69 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 135.63 ms)  Flow 2 (95th percentile 135.42 ms)  Flow 3 (95th percentile 135.69 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-20 16:10:17
End at: 2019-02-20 16:10:47
Local clock offset: -0.283 ms
Remote clock offset: 0.325 ms

# Below is generated by plot.py at 2019-02-20 17:42:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 675.34 Mbit/s
  95th percentile per-packet one-way delay: 136.591 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 390.52 Mbit/s
  95th percentile per-packet one-way delay: 136.207 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 349.19 Mbit/s
  95th percentile per-packet one-way delay: 137.122 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 239.21 Mbit/s
  95th percentile per-packet one-way delay: 137.211 ms
  Loss rate: 0.12%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-20 12:42:38
End at: 2019-02-20 12:43:08
Local clock offset: 0.497 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2019-02-20 17:42:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 582.74 Mbit/s
95th percentile per-packet one-way delay: 154.851 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 337.17 Mbit/s
95th percentile per-packet one-way delay: 166.337 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 349.37 Mbit/s
95th percentile per-packet one-way delay: 138.543 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 84.10 Mbit/s
95th percentile per-packet one-way delay: 133.103 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-20 13:32:21
End at: 2019-02-20 13:32:51
Local clock offset: 0.147 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-02-20 17:44:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 596.74 Mbit/s
  95th percentile per-packet one-way delay: 143.198 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 369.78 Mbit/s
  95th percentile per-packet one-way delay: 138.836 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 317.51 Mbit/s
  95th percentile per-packet one-way delay: 151.193 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 89.39 Mbit/s
  95th percentile per-packet one-way delay: 133.704 ms
  Loss rate: 0.00%
Run 2: Report of Indigo-MusesC5 — Data Link

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

[Legend for graphs]

78
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-20 14:24:31
End at: 2019-02-20 14:25:01
Local clock offset: -0.171 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-02-20 17:44:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 561.28 Mbit/s
  95th percentile per-packet one-way delay: 141.802 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 353.96 Mbit/s
  95th percentile per-packet one-way delay: 143.172 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 285.41 Mbit/s
  95th percentile per-packet one-way delay: 139.587 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 99.45 Mbit/s
  95th percentile per-packet one-way delay: 132.716 ms
  Loss rate: 0.00%
Run 3: Report of Indigo-MusesC5 — Data Link

[Graph showing throughput and packet delay over time]
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-20 15:17:13
End at: 2019-02-20 15:17:43
Local clock offset: -0.076 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-02-20 17:47:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 631.99 Mbit/s
95th percentile per-packet one-way delay: 158.739 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 404.25 Mbit/s
95th percentile per-packet one-way delay: 163.907 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 344.45 Mbit/s
95th percentile per-packet one-way delay: 144.219 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 84.46 Mbit/s
95th percentile per-packet one-way delay: 133.167 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesC5 — Data Link
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-20 16:07:45
End at: 2019-02-20 16:08:15
Local clock offset: -0.203 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-02-20 17:47:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.10 Mbit/s
95th percentile per-packet one-way delay: 145.040 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 328.55 Mbit/s
95th percentile per-packet one-way delay: 142.003 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 312.34 Mbit/s
95th percentile per-packet one-way delay: 156.791 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 83.92 Mbit/s
95th percentile per-packet one-way delay: 133.873 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesC5 — Data Link

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

![Graph 2: Per-packet one-way delay (ms)](image2.png)
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-20 12:40:18
End at: 2019-02-20 12:40:48
Local clock offset: -0.008 ms
Remote clock offset: -0.502 ms

# Below is generated by plot.py at 2019-02-20 17:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 584.02 Mbit/s
95th percentile per-packet one-way delay: 136.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 328.14 Mbit/s
95th percentile per-packet one-way delay: 136.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 360.58 Mbit/s
95th percentile per-packet one-way delay: 137.377 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 85.56 Mbit/s
95th percentile per-packet one-way delay: 132.603 ms
Loss rate: 0.00%
Run 1: Report of Indigo-MusesD — Data Link
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-20 13:29:41
End at: 2019-02-20 13:30:11
Local clock offset: -0.262 ms
Remote clock offset: 0.296 ms

# Below is generated by plot.py at 2019-02-20 17:53:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 612.45 Mbit/s
95th percentile per-packet one-way delay: 138.048 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 422.54 Mbit/s
95th percentile per-packet one-way delay: 139.226 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 265.22 Mbit/s
95th percentile per-packet one-way delay: 135.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.37 Mbit/s
95th percentile per-packet one-way delay: 134.620 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesD — Data Link

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

Legend:
- Flow 1 ingress (mean 422.55 Mbit/s)
- Flow 1 egress (mean 422.54 Mbit/s)
- Flow 2 ingress (mean 265.16 Mbit/s)
- Flow 2 egress (mean 265.22 Mbit/s)
- Flow 3 ingress (mean 80.37 Mbit/s)
- Flow 3 egress (mean 80.37 Mbit/s)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-20 14:22:09
End at: 2019-02-20 14:22:39
Local clock offset: -0.384 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-02-20 17:53:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 558.37 Mbit/s
  95th percentile per-packet one-way delay: 137.609 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 388.81 Mbit/s
  95th percentile per-packet one-way delay: 137.081 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 230.21 Mbit/s
  95th percentile per-packet one-way delay: 139.491 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 79.92 Mbit/s
  95th percentile per-packet one-way delay: 134.053 ms
  Loss rate: 0.00%
Run 3: Report of Indigo-MusesD — Data Link

![Graphs showing throughput and per-packet one-way delay for different flows over time.](image-url)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-20 15:14:36
End at: 2019-02-20 15:15:06
Local clock offset: 0.2 ms
Remote clock offset: ~0.059 ms

# Below is generated by plot.py at 2019-02-20 17:53:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 618.30 Mbit/s
95th percentile per-packet one-way delay: 137.044 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 400.43 Mbit/s
95th percentile per-packet one-way delay: 137.721 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 302.91 Mbit/s
95th percentile per-packet one-way delay: 136.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 88.20 Mbit/s
95th percentile per-packet one-way delay: 132.671 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesD — Data Link
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-20 16:05:15
End at: 2019-02-20 16:05:45
Local clock offset: -0.045 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-02-20 17:54:35
# Datalink statistics
-- Total of 3 flows:
95th percentile per-packet one-way delay: 141.357 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 277.83 Mbit/s
95th percentile per-packet one-way delay: 144.625 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 354.70 Mbit/s
95th percentile per-packet one-way delay: 140.150 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 133.242 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesD — Data Link

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

- Flow 1 ingress (mean 277.83 Mbit/s)
- Flow 1 egress (mean 277.83 Mbit/s)
- Flow 2 ingress (mean 354.71 Mbit/s)
- Flow 2 egress (mean 354.70 Mbit/s)
- Flow 3 ingress (mean 90.88 Mbit/s)
- Flow 3 egress (mean 90.88 Mbit/s)

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

- Flow 1 (95th percentile 144.62 ms)
- Flow 2 (95th percentile 140.15 ms)
- Flow 3 (95th percentile 133.24 ms)
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-20 12:17:39
End at: 2019-02-20 12:18:09
Local clock offset: -0.386 ms
Remote clock offset: -0.404 ms
Run 1: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 362.98 Mbit/s)
- Flow 1 egress (mean 362.99 Mbit/s)
- Flow 2 ingress (mean 393.04 Mbit/s)
- Flow 2 egress (mean 391.17 Mbit/s)
- Flow 3 ingress (mean 93.96 Mbit/s)
- Flow 3 egress (mean 93.96 Mbit/s)

![Graph showing packet delay per flow over time.]

- Flow 1 (95th percentile 143.14 ms)
- Flow 2 (95th percentile 181.91 ms)
- Flow 3 (95th percentile 132.91 ms)
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-20 13:06:19  
End at: 2019-02-20 13:06:49  
Local clock offset: 0.027 ms  
Remote clock offset: 0.319 ms

# Below is generated by plot.py at 2019-02-20 18:01:34  
# Datalink statistics

-- Total of 3 flows:
Average throughput: 780.76 Mbit/s
95th percentile per-packet one-way delay: 142.278 ms
Loss rate: 0.01%

-- Flow 1:
Average throughput: 502.31 Mbit/s
95th percentile per-packet one-way delay: 144.953 ms
Loss rate: 0.01%

-- Flow 2:
Average throughput: 391.81 Mbit/s
95th percentile per-packet one-way delay: 136.784 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 93.48 Mbit/s
95th percentile per-packet one-way delay: 133.857 ms
Loss rate: 0.00%
Run 2: Report of Indigo-MusesT — Data Link

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

- Flow 1 (mean 502.38 Mbit/s, 95th percentile 144.95 ms)
- Flow 2 (mean 391.81 Mbit/s, 95th percentile 136.78 ms)
- Flow 3 (mean 93.48 Mbit/s, 95th percentile 133.86 ms)
Run 3: Statistics of Indigo-MusesT

End at: 2019-02-20 13:57:43
Local clock offset: -0.152 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-02-20 18:01:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 754.69 Mbit/s
  95th percentile per-packet one-way delay: 143.077 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 481.65 Mbit/s
  95th percentile per-packet one-way delay: 145.011 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 377.14 Mbit/s
  95th percentile per-packet one-way delay: 138.898 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 89.38 Mbit/s
  95th percentile per-packet one-way delay: 133.645 ms
  Loss rate: 0.00%
Run 3: Report of Indigo-MusesT — Data Link
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-20 14:49:51
End at: 2019-02-20 14:50:21
Local clock offset: -0.173 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-02-20 18:04:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 736.26 Mbit/s
95th percentile per-packet one-way delay: 139.990 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 477.50 Mbit/s
95th percentile per-packet one-way delay: 141.299 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 359.26 Mbit/s
95th percentile per-packet one-way delay: 136.808 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 98.06 Mbit/s
95th percentile per-packet one-way delay: 132.822 ms
Loss rate: 0.00%
Run 4: Report of Indigo-MusesT — Data Link

![Graph showing data link performance metrics.](image)

![Graph showing packet delay distribution.](image)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-20 15:41:13
End at: 2019-02-20 15:41:43
Local clock offset: -0.309 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 773.77 Mbit/s
95th percentile per-packet one-way delay: 164.382 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 457.41 Mbit/s
95th percentile per-packet one-way delay: 163.632 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 390.40 Mbit/s
95th percentile per-packet one-way delay: 171.544 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 231.82 Mbit/s
95th percentile per-packet one-way delay: 135.745 ms
Loss rate: 0.00%
Run 5: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 457.53 Mbps)
- Flow 1 egress (mean 457.41 Mbps)
- Flow 2 ingress (mean 390.42 Mbps)
- Flow 2 egress (mean 390.40 Mbps)
- Flow 3 ingress (mean 231.82 Mbps)
- Flow 3 egress (mean 231.82 Mbps)

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

- Flow 1 (95th percentile 163.63 ms)
- Flow 2 (95th percentile 171.54 ms)
- Flow 3 (95th percentile 135.75 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-02-20 12:21:44
End at: 2019-02-20 12:22:14
Local clock offset: 0.205 ms
Remote clock offset: -0.452 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.08 Mbit/s
  95th percentile per-packet one-way delay: 132.991 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 5.24 Mbit/s
  95th percentile per-packet one-way delay: 132.165 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.46 Mbit/s
  95th percentile per-packet one-way delay: 133.207 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.71 Mbit/s
  95th percentile per-packet one-way delay: 133.041 ms
  Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-02-20 13:10:52
End at: 2019-02-20 13:11:22
Local clock offset: -0.231 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 134.225 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 134.330 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 133.781 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 133.819 ms
Loss rate: 0.00%
Run 2: Report of LEDBAT — Data Link
Run 3: Statistics of LEDBAT

Start at: 2019-02-20 14:02:01
End at: 2019-02-20 14:02:31
Local clock offset: -0.255 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.12 Mbit/s
  95th percentile per-packet one-way delay: 133.644 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 5.28 Mbit/s
  95th percentile per-packet one-way delay: 133.425 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.47 Mbit/s
  95th percentile per-packet one-way delay: 133.687 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.71 Mbit/s
  95th percentile per-packet one-way delay: 133.845 ms
  Loss rate: 0.00%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2019-02-20 14:54:37
End at: 2019-02-20 14:55:07
Local clock offset: -0.557 ms
Remote clock offset: -0.527 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.13 Mbit/s
  95th percentile per-packet one-way delay: 133.815 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 5.22 Mbit/s
  95th percentile per-packet one-way delay: 133.916 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.53 Mbit/s
  95th percentile per-packet one-way delay: 133.258 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.71 Mbit/s
  95th percentile per-packet one-way delay: 133.601 ms
  Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link

[Graph 1: Throughput vs Time]

[Graph 2: End-to-End Delay vs Time]

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112
Run 5: Statistics of LEDBAT

Start at: 2019-02-20 15:46:30
End at: 2019-02-20 15:47:00
Local clock offset: -0.281 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-02-20 18:05:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 133.743 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 133.657 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 133.852 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 133.373 ms
Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

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**Throughput (Mb/s)**

- **Flow 1 ingress (mean 5.27 Mb/s)**
- **Flow 1 egress (mean 5.27 Mb/s)**
- **Flow 2 ingress (mean 3.47 Mb/s)**
- **Flow 2 egress (mean 3.47 Mb/s)**
- **Flow 3 ingress (mean 1.71 Mb/s)**
- **Flow 3 egress (mean 1.71 Mb/s)**

**Per-packet round-trip delay (ms)**

- **Flow 1 (95th percentile 133.66 ms)**
- **Flow 2 (95th percentile 133.85 ms)**
- **Flow 3 (95th percentile 133.37 ms)**

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114
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-20 12:30:18
End at: 2019-02-20 12:30:48
Local clock offset: 0.252 ms
Remote clock offset: 0.213 ms

# Below is generated by plot.py at 2019-02-20 18:19:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 689.82 Mbit/s
95th percentile per-packet one-way delay: 250.716 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 407.23 Mbit/s
95th percentile per-packet one-way delay: 253.298 ms
Loss rate: 3.96%
-- Flow 2:
Average throughput: 312.06 Mbit/s
95th percentile per-packet one-way delay: 202.417 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 227.52 Mbit/s
95th percentile per-packet one-way delay: 265.978 ms
Loss rate: 3.11%
Run 1: Report of PCC-Allegro — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 424.03 Mb/s)
Flow 1 egress (mean 407.23 Mb/s)
Flow 2 ingress (mean 316.62 Mb/s)
Flow 2 egress (mean 312.06 Mb/s)
Flow 3 ingress (mean 234.83 Mb/s)
Flow 3 egress (mean 227.52 Mb/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 253.30 ms)
Flow 2 (95th percentile 202.42 ms)
Flow 3 (95th percentile 265.98 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-20 13:19:37
End at: 2019-02-20 13:20:07
Local clock offset: 0.283 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2019-02-20 18:19:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 667.78 Mbit/s
  95th percentile per-packet one-way delay: 275.587 ms
  Loss rate: 7.11%
-- Flow 1:
  Average throughput: 391.21 Mbit/s
  95th percentile per-packet one-way delay: 274.586 ms
  Loss rate: 6.67%
-- Flow 2:
  Average throughput: 303.30 Mbit/s
  95th percentile per-packet one-way delay: 278.531 ms
  Loss rate: 10.30%
-- Flow 3:
  Average throughput: 227.98 Mbit/s
  95th percentile per-packet one-way delay: 165.015 ms
  Loss rate: 0.00%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-20 14:11:32
End at: 2019-02-20 14:12:02
Local clock offset: -0.373 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-02-20 18:19:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.73 Mbit/s
95th percentile per-packet one-way delay: 232.968 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 280.99 Mbit/s
95th percentile per-packet one-way delay: 224.742 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 296.02 Mbit/s
95th percentile per-packet one-way delay: 229.992 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 225.44 Mbit/s
95th percentile per-packet one-way delay: 256.139 ms
Loss rate: 2.27%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-20 15:04:01
End at: 2019-02-20 15:04:31
Local clock offset: -0.579 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-02-20 18:19:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 635.58 Mbit/s
95th percentile per-packet one-way delay: 197.637 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 361.17 Mbit/s
95th percentile per-packet one-way delay: 180.452 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 299.02 Mbit/s
95th percentile per-packet one-way delay: 193.037 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 228.85 Mbit/s
95th percentile per-packet one-way delay: 261.854 ms
Loss rate: 2.15%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-20 15:55:46
End at: 2019-02-20 15:56:16
Local clock offset: -0.314 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-02-20 18:20:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 506.48 Mbit/s
  95th percentile per-packet one-way delay: 235.668 ms
  Loss rate: 2.51%
-- Flow 1:
  Average throughput: 273.03 Mbit/s
  95th percentile per-packet one-way delay: 237.614 ms
  Loss rate: 3.04%
-- Flow 2:
  Average throughput: 240.19 Mbit/s
  95th percentile per-packet one-way delay: 227.686 ms
  Loss rate: 2.74%
-- Flow 3:
  Average throughput: 224.73 Mbit/s
  95th percentile per-packet one-way delay: 207.082 ms
  Loss rate: 0.00%
Run 5: Report of PCC-Allegro — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 281.57 Mbps)  Flow 1 egress (mean 278.03 Mbps)
Flow 2 ingress (mean 246.96 Mbps)  Flow 2 egress (mean 240.19 Mbps)
Flow 3 ingress (mean 224.72 Mbps)  Flow 3 egress (mean 224.73 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 237.61 ms)  Flow 2 (95th percentile 227.69 ms)  Flow 3 (95th percentile 207.08 ms)
Run 1: Statistics of PCC-Expr

Start at: 2019-02-20 12:00:50
End at: 2019-02-20 12:01:20
Local clock offset: -0.153 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-02-20 18:22:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 549.32 Mbit/s
95th percentile per-packet one-way delay: 234.303 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 310.36 Mbit/s
95th percentile per-packet one-way delay: 229.384 ms
Loss rate: 3.16%
-- Flow 2:
Average throughput: 284.40 Mbit/s
95th percentile per-packet one-way delay: 240.256 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 149.12 Mbit/s
95th percentile per-packet one-way delay: 136.276 ms
Loss rate: 0.00%
Run 1: Report of PCC-Expr — Data Link

![Graph of throughput and delay over time with legends identifying different flows and their ingress and egress throughput averages.]

- Flow 1 ingress (mean 320.49 Mbit/s)
- Flow 1 egress (mean 310.36 Mbit/s)
- Flow 2 ingress (mean 292.09 Mbit/s)
- Flow 2 egress (mean 284.40 Mbit/s)
- Flow 3 ingress (mean 149.12 Mbit/s)
- Flow 3 egress (mean 149.12 Mbit/s)

![Graph of per-packet one-way delay with legends identifying different flows and their 95th percentile delay values.]

- Flow 1 (95th percentile 229.38 ms)
- Flow 2 (95th percentile 240.26 ms)
- Flow 3 (95th percentile 136.28 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-02-20 12:49:59
End at: 2019-02-20 12:50:29
Local clock offset: 0.189 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-02-20 18:23:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 482.23 Mbit/s
  95th percentile per-packet one-way delay: 223.756 ms
  Loss rate: 1.59%
-- Flow 1:
  Average throughput: 306.95 Mbit/s
  95th percentile per-packet one-way delay: 237.261 ms
  Loss rate: 2.35%
-- Flow 2:
  Average throughput: 191.27 Mbit/s
  95th percentile per-packet one-way delay: 138.940 ms
  Loss rate: 0.31%
-- Flow 3:
  Average throughput: 146.05 Mbit/s
  95th percentile per-packet one-way delay: 139.204 ms
  Loss rate: 0.00%
Run 2: Report of PCC-Expr — Data Link

---

**Throughput (Mb/s)**

```
Flow 1 ingress (mean 314.33 Mb/s)  Flow 1 egress (mean 306.95 Mb/s)
Flow 2 ingress (mean 191.88 Mb/s)  Flow 2 egress (mean 191.72 Mb/s)
Flow 3 ingress (mean 146.05 Mb/s)  Flow 3 egress (mean 146.05 Mb/s)
```

---

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

```
Flow 1 (95th percentile 237.26 ms)  Flow 2 (95th percentile 138.94 ms)  Flow 3 (95th percentile 139.20 ms)
```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-20 13:40:26
End at: 2019-02-20 13:40:56
Local clock offset: -0.117 ms
Remote clock offset: 0.244 ms

# Below is generated by plot.py at 2019-02-20 18:25:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.76 Mbit/s
95th percentile per-packet one-way delay: 243.679 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 299.85 Mbit/s
95th percentile per-packet one-way delay: 244.751 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 272.98 Mbit/s
95th percentile per-packet one-way delay: 244.731 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 146.86 Mbit/s
95th percentile per-packet one-way delay: 156.112 ms
Loss rate: 0.00%
Run 3: Report of PCC-Expr — Data Link

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

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

Legend:
- Flow 1 ingress (mean 399.41 Mb/s)
- Flow 1 egress (mean 299.85 Mb/s)
- Flow 2 ingress (mean 277.04 Mb/s)
- Flow 2 egress (mean 272.98 Mb/s)
- Flow 3 ingress (mean 146.86 Mb/s)
- Flow 3 egress (mean 146.66 Mb/s)

Legend:
- Flow 1 (95th percentile 244.75 ms)
- Flow 2 (95th percentile 244.73 ms)
- Flow 3 (95th percentile 156.11 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-02-20 14:32:47
End at: 2019-02-20 14:33:17
Local clock offset: -0.125 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2019-02-20 18:32:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 494.09 Mbit/s
95th percentile per-packet one-way delay: 230.935 ms
Loss rate: 2.96%
-- Flow 1:
Average throughput: 321.36 Mbit/s
95th percentile per-packet one-way delay: 235.213 ms
Loss rate: 4.48%
-- Flow 2:
Average throughput: 187.70 Mbit/s
95th percentile per-packet one-way delay: 137.970 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 145.65 Mbit/s
95th percentile per-packet one-way delay: 212.410 ms
Loss rate: 0.00%
Run 4: Report of PCC-Expr — Data Link
Run 5: Statistics of PCC-Expr

Start at: 2019-02-20 15:25:15
End at: 2019-02-20 15:25:45
Local clock offset: -0.429 ms
Remote clock offset: 0.317 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.58 Mbit/s
95th percentile per-packet one-way delay: 229.278 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 299.85 Mbit/s
95th percentile per-packet one-way delay: 230.845 ms
Loss rate: 2.56%
-- Flow 2:
Average throughput: 186.99 Mbit/s
95th percentile per-packet one-way delay: 140.094 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 216.89 Mbit/s
95th percentile per-packet one-way delay: 234.494 ms
Loss rate: 2.40%
Run 5: Report of PCC-Expr — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 397.71 Mbps)
Flow 1 egress (mean 299.85 Mbps)
Flow 2 ingress (mean 187.00 Mbps)
Flow 2 egress (mean 186.99 Mbps)
Flow 3 ingress (mean 222.44 Mbps)
Flow 3 egress (mean 218.89 Mbps)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 230.84 ms)
Flow 2 (95th percentile 140.09 ms)
Flow 3 (95th percentile 234.49 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-20 12:16:14
End at: 2019-02-20 12:16:44
Local clock offset: -0.512 ms
Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 60.99 Mbit/s
  95th percentile per-packet one-way delay: 133.726 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.01 Mbit/s
  95th percentile per-packet one-way delay: 134.871 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 60.73 Mbit/s
  95th percentile per-packet one-way delay: 133.083 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 63.92 Mbit/s
  95th percentile per-packet one-way delay: 133.841 ms
  Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-20 13:04:44
End at: 2019-02-20 13:05:14
Local clock offset: -0.054 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.53 Mbit/s
95th percentile per-packet one-way delay: 133.315 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.17 Mbit/s
95th percentile per-packet one-way delay: 133.145 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.25 Mbit/s
95th percentile per-packet one-way delay: 133.384 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 133.079 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

![Graph showing network performance metrics over time.](image)

**Throughout (Mbps)**

**Time (s)**

Flow 1 ingress (mean 61.17 Mbps/s)
Flow 1 egress (mean 61.17 Mbps/s)
Flow 2 ingress (mean 60.25 Mbps/s)
Flow 2 egress (mean 60.25 Mbps/s)
Flow 3 ingress (mean 56.86 Mbps/s)
Flow 3 egress (mean 56.87 Mbps/s)

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

Flow 1 (95th percentile 133.15 ms)
Flow 2 (95th percentile 133.38 ms)
Flow 3 (95th percentile 133.08 ms)
Run 3: Statistics of QUIC Cubic

End at: 2019-02-20 13:56:09
Local clock offset: -0.55 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.31 Mbit/s
95th percentile per-packet one-way delay: 133.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.76 Mbit/s
95th percentile per-packet one-way delay: 132.680 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.30 Mbit/s
95th percentile per-packet one-way delay: 133.460 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 133.447 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

![Graph 1: Throughput (Mbps/s) over time for different flows.]

![Graph 2: Packet one-way delay (ms) over time for different flows.]

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140
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-20 14:48:15
End at: 2019-02-20 14:48:45
Local clock offset: 0.045 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.06 Mbit/s
95th percentile per-packet one-way delay: 132.891 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.40 Mbit/s
95th percentile per-packet one-way delay: 132.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.50 Mbit/s
95th percentile per-packet one-way delay: 132.240 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 132.857 ms
Loss rate: 0.00%
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-20 15:39:35
End at: 2019-02-20 15:40:05
Local clock offset: -0.265 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 115.07 Mbit/s
  95th percentile per-packet one-way delay: 133.034 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 55.67 Mbit/s
  95th percentile per-packet one-way delay: 133.025 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 60.53 Mbit/s
  95th percentile per-packet one-way delay: 133.007 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 59.48 Mbit/s
  95th percentile per-packet one-way delay: 133.080 ms
  Loss rate: 0.00%
Run 5: Report of QUIC Cubic — Data Link

![Graph](image-url)
Run 1: Statistics of SCReAM

Start at: 2019-02-20 12:09:01
End at: 2019-02-20 12:09:31
Local clock offset: -0.095 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 132.871 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.904 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.591 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 132.578 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

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

![Graph 2: Packet one-way delay (ms)]
Run 2: Statistics of SCReAM

Start at: 2019-02-20 12:57:32
End at: 2019-02-20 12:58:02
Local clock offset: 0.203 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.30 Mbit/s
  95th percentile per-packet one-way delay: 133.085 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 133.009 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 132.899 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 133.194 ms
  Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

![Throughput Graph](chart1.png)

![Delay Graph](chart2.png)

*Flow 1 ingress (mean 0.15 Mbit/s)*
*Flow 1 egress (mean 0.15 Mbit/s)*
*Flow 2 ingress (mean 0.15 Mbit/s)*
*Flow 2 egress (mean 0.15 Mbit/s)*
*Flow 3 ingress (mean 0.16 Mbit/s)*
*Flow 3 egress (mean 0.16 Mbit/s)*

*Flow 1 (95th percentile 133.01 ms)*
*Flow 2 (95th percentile 132.90 ms)*
*Flow 3 (95th percentile 133.19 ms)*
Run 3: Statistics of SCReAM

Start at: 2019-02-20 13:48:01
End at: 2019-02-20 13:48:31
Local clock offset: -0.318 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.442 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.507 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.307 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.611 ms
Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 0.15 Mbps)
  - Flow 1 egress (mean 0.15 Mbps)
  - Flow 2 ingress (mean 0.15 Mbps)
  - Flow 2 egress (mean 0.15 Mbps)
  - Flow 3 ingress (mean 0.15 Mbps)
  - Flow 3 egress (mean 0.15 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 133.51 ms)
  - Flow 2 (95th percentile 133.31 ms)
  - Flow 3 (95th percentile 132.61 ms)
Run 4: Statistics of SCReAM

Start at: 2019-02-20 14:41:00
End at: 2019-02-20 14:41:30
Local clock offset: -0.388 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.357 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.312 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.188 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.423 ms
Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-02-20 15:32:26
End at: 2019-02-20 15:32:56
Local clock offset: -0.259 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.333 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.055 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.030 ms
Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 0.15 Mb/s)
Flow 1 egress (mean 0.15 Mb/s)
Flow 2 ingress (mean 0.15 Mb/s)
Flow 2 egress (mean 0.15 Mb/s)
Flow 3 ingress (mean 0.16 Mb/s)
Flow 3 egress (mean 0.16 Mb/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 133.06 ms)
Flow 2 (95th percentile 133.42 ms)
Flow 3 (95th percentile 133.03 ms)
Run 1: Statistics of Sprout

Start at: 2019-02-20 12:07:42
End at: 2019-02-20 12:08:12
Local clock offset: -0.667 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 133.725 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.739 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.729 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.213 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-02-20 12:56:14
End at: 2019-02-20 12:56:44
Local clock offset: 0.175 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 132.926 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 132.269 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 133.028 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 132.209 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-02-20 13:46:41
End at: 2019-02-20 13:47:11
Local clock offset: -0.132 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.24 Mbit/s
  95th percentile per-packet one-way delay: 133.118 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.62 Mbit/s
  95th percentile per-packet one-way delay: 133.041 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.63 Mbit/s
  95th percentile per-packet one-way delay: 133.086 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.62 Mbit/s
  95th percentile per-packet one-way delay: 133.201 ms
  Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 0.62 Mbps)
- Flow 1 egress (mean 0.62 Mbps)
- Flow 2 ingress (mean 0.63 Mbps)
- Flow 2 egress (mean 0.63 Mbps)
- Flow 3 ingress (mean 0.62 Mbps)
- Flow 3 egress (mean 0.62 Mbps)

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

- Flow 1 (95th percentile 133.04 ms)
- Flow 2 (95th percentile 133.09 ms)
- Flow 3 (95th percentile 133.20 ms)
Run 4: Statistics of Sprout

Start at: 2019-02-20 14:39:41
End at: 2019-02-20 14:40:11
Local clock offset: 0.13 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.12 Mbit/s
  95th percentile per-packet one-way delay: 132.961 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.51 Mbit/s
  95th percentile per-packet one-way delay: 133.006 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.69 Mbit/s
  95th percentile per-packet one-way delay: 132.143 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.47 Mbit/s
  95th percentile per-packet one-way delay: 132.961 ms
  Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

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

Flow 1 ing (mean 0.50 Mbit/s), Flow 2 ing (mean 0.69 Mbit/s), Flow 3 ing (mean 0.47 Mbit/s), Flow 1 egress (mean 0.51 Mbit/s), Flow 2 egress (mean 0.69 Mbit/s), Flow 3 egress (mean 0.47 Mbit/s)
Run 5: Statistics of Sprout

Start at: 2019-02-20 15:31:07
End at: 2019-02-20 15:31:37
Local clock offset: -0.096 ms
Remote clock offset: -0.405 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 132.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.716 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 132.750 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 132.597 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-20 12:35:34
End at: 2019-02-20 12:36:04
Local clock offset: 0.071 ms
Remote clock offset: 0.237 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.57 Mbit/s
95th percentile per-packet one-way delay: 133.629 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 13.15 Mbit/s
95th percentile per-packet one-way delay: 133.575 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 191.23 Mbit/s
95th percentile per-packet one-way delay: 133.604 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 174.52 Mbit/s
95th percentile per-packet one-way delay: 133.714 ms
Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link

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

**Throughput (Mbit/s)**

**Flow 1 ingress (mean 13.15 Mbit/s)**

**Flow 1 egress (mean 13.15 Mbit/s)**

**Flow 2 ingress (mean 191.23 Mbit/s)**

**Flow 2 egress (mean 191.23 Mbit/s)**

**Flow 3 ingress (mean 174.52 Mbit/s)**

**Flow 3 egress (mean 174.52 Mbit/s)**

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

**Flow 1 (95th percentile 133.57 ms)**

**Flow 2 (95th percentile 133.60 ms)**

**Flow 3 (95th percentile 133.71 ms)**

166
Run 2: Statistics of TaoVA-100x

Start at: 2019-02-20 13:24:56
End at: 2019-02-20 13:25:26
Local clock offset: -0.281 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.81 Mbit/s
95th percentile per-packet one-way delay: 133.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.13 Mbit/s
95th percentile per-packet one-way delay: 133.288 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 175.64 Mbit/s
95th percentile per-packet one-way delay: 133.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 182.64 Mbit/s
95th percentile per-packet one-way delay: 134.096 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

![Graph of network throughput and delay over time for three flows.

- Flow 1 ingress (mean 13.13 Mbit/s) and Flow 1 egress (mean 13.13 Mbit/s)
- Flow 2 ingress (mean 175.64 Mbit/s) and Flow 2 egress (mean 175.64 Mbit/s)
- Flow 3 ingress (mean 182.64 Mbit/s) and Flow 3 egress (mean 182.64 Mbit/s)

![Graph of packet delay distribution for three flows.

- Flow 1 (95th percentile 133.29 ms)
- Flow 2 (95th percentile 133.59 ms)
- Flow 3 (95th percentile 134.10 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-02-20 14:17:09
End at: 2019-02-20 14:17:39
Local clock offset: -0.31 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 190.24 Mbit/s
  95th percentile per-packet one-way delay: 133.621 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 177.40 Mbit/s
  95th percentile per-packet one-way delay: 133.628 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 13.01 Mbit/s
  95th percentile per-packet one-way delay: 133.599 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 12.58 Mbit/s
  95th percentile per-packet one-way delay: 132.810 ms
  Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2019-02-20 15:09:36
End at: 2019-02-20 15:10:06
Local clock offset: 0.003 ms
Remote clock offset: 0.24 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 306.77 Mbit/s
95th percentile per-packet one-way delay: 133.290 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 187.19 Mbit/s
95th percentile per-packet one-way delay: 133.320 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 173.19 Mbit/s
95th percentile per-packet one-way delay: 133.213 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 132.702 ms
Loss rate: 0.00%
Run 4: Report of TaoVA-100x — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 187.19 Mbit/s)  Flow 1 egress (mean 187.19 Mbit/s)
Flow 2 ingress (mean 173.18 Mbit/s)  Flow 2 egress (mean 173.18 Mbit/s)
Flow 3 ingress (mean 12.72 Mbit/s)   Flow 3 egress (mean 12.72 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 133.32 ms)  Flow 2 (95th percentile 133.21 ms)  Flow 3 (95th percentile 132.70 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2019-02-20 16:01:02
End at: 2019-02-20 16:01:32
Local clock offset: -0.695 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-02-20 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 222.58 Mbit/s
95th percentile per-packet one-way delay: 134.714 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 158.84 Mbit/s
95th percentile per-packet one-way delay: 134.450 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 136.964 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 151.70 Mbit/s
95th percentile per-packet one-way delay: 133.996 ms
Loss rate: 0.00%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

Start at: 2019-02-20 12:04:31
End at: 2019-02-20 12:05:01
Local clock offset: -0.217 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-02-20 18:42:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 794.09 Mbit/s
  95th percentile per-packet one-way delay: 200.206 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 472.36 Mbit/s
  95th percentile per-packet one-way delay: 214.958 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 394.35 Mbit/s
  95th percentile per-packet one-way delay: 142.264 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 176.88 Mbit/s
  95th percentile per-packet one-way delay: 160.670 ms
  Loss rate: 0.00%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2019-02-20 12:53:23
End at: 2019-02-20 12:53:53
Local clock offset: 0.176 ms
Remote clock offset: -0.465 ms

# Below is generated by plot.py at 2019-02-20 18:42:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 555.89 Mbit/s
95th percentile per-packet one-way delay: 152.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 229.14 Mbit/s
95th percentile per-packet one-way delay: 137.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 359.75 Mbit/s
95th percentile per-packet one-way delay: 149.677 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 261.76 Mbit/s
95th percentile per-packet one-way delay: 206.496 ms
Loss rate: 0.03%
Run 2: Report of TCP Vegas — Data Link

![Graph showing throughput and delay over time for different flows.](image-url)
Run 3: Statistics of TCP Vegas

Start at: 2019-02-20 13:43:44
End at: 2019-02-20 13:44:14
Local clock offset: -0.339 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-02-20 18:43:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 620.90 Mbit/s
95th percentile per-packet one-way delay: 137.097 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 343.36 Mbit/s
95th percentile per-packet one-way delay: 133.838 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 302.49 Mbit/s
95th percentile per-packet one-way delay: 171.930 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 228.93 Mbit/s
95th percentile per-packet one-way delay: 139.390 ms
Loss rate: 0.01%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-02-20 14:36:24  
End at: 2019-02-20 14:36:54  
Local clock offset: -0.168 ms  
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-02-20 18:45:20
# Datalink statistics
-- Total of 3 flows:  
  Average throughput: 732.58 Mbit/s  
  95th percentile per-packet one-way delay: 137.369 ms  
  Loss rate: 0.00%  
-- Flow 1:  
  Average throughput: 427.47 Mbit/s  
  95th percentile per-packet one-way delay: 137.125 ms  
  Loss rate: 0.00%  
-- Flow 2:  
  Average throughput: 343.64 Mbit/s  
  95th percentile per-packet one-way delay: 134.138 ms  
  Loss rate: 0.00%  
-- Flow 3:  
  Average throughput: 229.24 Mbit/s  
  95th percentile per-packet one-way delay: 207.473 ms  
  Loss rate: 0.00%
Run 4: Report of TCP Vegas — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 427.46 Mbps)  Flow 1 egress (mean 427.47 Mbps)
Flow 2 ingress (mean 343.65 Mbps)  Flow 2 egress (mean 343.64 Mbps)
Flow 3 ingress (mean 229.23 Mbps)  Flow 3 egress (mean 229.24 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 137.12 ms)  Flow 2 (95th percentile 134.14 ms)  Flow 3 (95th percentile 207.47 ms)
Run 5: Statistics of TCP Vegas

Start at: 2019-02-20 15:28:21
End at: 2019-02-20 15:28:51
Local clock offset: -0.259 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-02-20 18:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.39 Mbit/s
95th percentile per-packet one-way delay: 177.562 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 422.74 Mbit/s
95th percentile per-packet one-way delay: 177.825 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 236.99 Mbit/s
95th percentile per-packet one-way delay: 150.029 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 261.19 Mbit/s
95th percentile per-packet one-way delay: 197.495 ms
Loss rate: 0.00%
Run 5: Report of TCP Vegas — Data Link

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

Legend:
- Flow 1 ingress (mean 422.73 Mbit/s)
- Flow 1 egress (mean 422.74 Mbit/s)
- Flow 2 ingress (mean 236.99 Mbit/s)
- Flow 2 egress (mean 236.99 Mbit/s)
- Flow 3 ingress (mean 261.19 Mbit/s)
- Flow 3 egress (mean 261.19 Mbit/s)

Legend for delay:
- Flow 1 (95th percentile 177.82 ms)
- Flow 2 (95th percentile 150.03 ms)
- Flow 3 (95th percentile 195.50 ms)
Run 1: Statistics of Verus

Start at: 2019-02-20 12:20:06
End at: 2019-02-20 12:20:36
Local clock offset: -0.038 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-02-20 18:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 147.766 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 36.19 Mbit/s
95th percentile per-packet one-way delay: 219.037 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 35.23 Mbit/s
95th percentile per-packet one-way delay: 140.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 142.912 ms
Loss rate: 0.00%
Run 1: Report of Verus — Data Link

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 36.46 Mbit/s)
- Blue solid line: Flow 1 egress (mean 36.19 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 35.23 Mbit/s)
- Green solid line: Flow 2 egress (mean 35.23 Mbit/s)
- Purple dashed line: Flow 3 ingress (mean 40.57 Mbit/s)
- Purple solid line: Flow 3 egress (mean 40.57 Mbit/s)

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

Legend:
- Blue circle: Flow 1 (95th percentile 219.04 ms)
- Green circle: Flow 2 (95th percentile 140.60 ms)
- Red circle: Flow 3 (95th percentile 142.91 ms)
Run 2: Statistics of Verus

Start at: 2019-02-20 13:08:57
End at: 2019-02-20 13:09:27
Local clock offset: -0.215 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-02-20 18:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.83 Mbit/s
95th percentile per-packet one-way delay: 280.111 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 100.65 Mbit/s
95th percentile per-packet one-way delay: 279.582 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 76.61 Mbit/s
95th percentile per-packet one-way delay: 287.916 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 42.23 Mbit/s
95th percentile per-packet one-way delay: 141.050 ms
Loss rate: 0.00%
Run 2: Report of Verus — Data Link

[Graph showing network performance metrics]

[Graph showing per-packet size and delay]
Run 3: Statistics of Verus

Start at: 2019-02-20 14:00:07  
End at: 2019-02-20 14:00:37  
Local clock offset: -0.367 ms  
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-02-20 18:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.08 Mbit/s
95th percentile per-packet one-way delay: 217.379 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 65.86 Mbit/s
95th percentile per-packet one-way delay: 151.626 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.22 Mbit/s
95th percentile per-packet one-way delay: 143.961 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 99.75 Mbit/s
95th percentile per-packet one-way delay: 265.571 ms
Loss rate: 0.12%
Run 3: Report of Verus — Data Link

![Graph showing throughput and delay over time.]

- Flow 1 ingress (mean 65.86 Mbit/s)
- Flow 1 egress (mean 65.86 Mbit/s)
- Flow 2 ingress (mean 53.22 Mbit/s)
- Flow 2 egress (mean 53.22 Mbit/s)
- Flow 3 ingress (mean 101.44 Mbit/s)
- Flow 3 egress (mean 99.75 Mbit/s)

![Graph showing packet delay over time.]

- Flow 1 (95th percentile 191.63 ms)
- Flow 2 (95th percentile 143.96 ms)
- Flow 3 (95th percentile 265.57 ms)
Run 4: Statistics of Verus

Start at: 2019-02-20 14:52:51
End at: 2019-02-20 14:53:21
Local clock offset: 0.261 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-02-20 18:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.38 Mbit/s
95th percentile per-packet one-way delay: 175.978 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.94 Mbit/s
95th percentile per-packet one-way delay: 138.644 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.67 Mbit/s
95th percentile per-packet one-way delay: 166.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 66.31 Mbit/s
95th percentile per-packet one-way delay: 194.945 ms
Loss rate: 0.00%
Run 4: Report of Verus — Data Link

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**Throughput (Mbps)**

- Flow 1 ingress (mean 46.94 Mbps)
- Flow 1 egress (mean 46.94 Mbps)
- Flow 2 ingress (mean 65.98 Mbps)
- Flow 2 egress (mean 65.67 Mbps)
- Flow 3 ingress (mean 66.32 Mbps)
- Flow 3 egress (mean 66.31 Mbps)

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

- Flow 1 (95th percentile 138.64 ms)
- Flow 2 (95th percentile 166.00 ms)
- Flow 3 (95th percentile 194.94 ms)
Run 5: Statistics of Verus

Start at: 2019-02-20 15:43:56
End at: 2019-02-20 15:44:26
Local clock offset: -0.249 ms
Remote clock offset: 0.29 ms

# Below is generated by plot.py at 2019-02-20 18:49:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 266.83 Mbit/s
  95th percentile per-packet one-way delay: 289.300 ms
  Loss rate: 8.81%
-- Flow 1:
  Average throughput: 189.86 Mbit/s
  95th percentile per-packet one-way delay: 291.760 ms
  Loss rate: 11.59%
-- Flow 2:
  Average throughput: 43.11 Mbit/s
  95th percentile per-packet one-way delay: 270.501 ms
  Loss rate: 1.02%
-- Flow 3:
  Average throughput: 150.10 Mbit/s
  95th percentile per-packet one-way delay: 270.133 ms
  Loss rate: 1.22%
Run 5: Report of Verus — Data Link

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

- Flow 1 ingress (mean 215.28 Mbit/s) and egress (mean 189.86 Mbit/s)
- Flow 2 ingress (mean 43.55 Mbit/s) and egress (mean 43.11 Mbit/s)
- Flow 3 ingress (mean 152.03 Mbit/s) and egress (mean 150.10 Mbit/s)

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

- Flow 1 (95th percentile 291.76 ms)
- Flow 2 (95th percentile 270.50 ms)
- Flow 3 (95th percentile 270.13 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-20 12:13:15
End at: 2019-02-20 12:13:45
Local clock offset: -0.539 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2019-02-20 18:49:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 494.83 Mbit/s
  95th percentile per-packet one-way delay: 140.815 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 329.27 Mbit/s
  95th percentile per-packet one-way delay: 149.925 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 190.57 Mbit/s
  95th percentile per-packet one-way delay: 134.239 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 116.66 Mbit/s
  95th percentile per-packet one-way delay: 133.915 ms
  Loss rate: 0.00%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-20 13:02:16
End at: 2019-02-20 13:02:46
Local clock offset: 0.017 ms
Remote clock offset: -0.437 ms

# Below is generated by plot.py at 2019-02-20 18:49:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.47 Mbit/s
95th percentile per-packet one-way delay: 139.389 ms
Loss rate: 0.94%

-- Flow 1:
Average throughput: 147.51 Mbit/s
95th percentile per-packet one-way delay: 225.264 ms
Loss rate: 2.20%

-- Flow 2:
Average throughput: 212.77 Mbit/s
95th percentile per-packet one-way delay: 134.621 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 204.58 Mbit/s
95th percentile per-packet one-way delay: 137.421 ms
Loss rate: 0.07%
Run 2: Report of PCC-Vivace — Data Link

![Graph showing throughput and delay for different flows]

**Throughput (Mbps):**
- Flow 1 ingress (mean 150.83 Mbps)
- Flow 1 egress (mean 147.51 Mbps)
- Flow 2 ingress (mean 212.77 Mbps)
- Flow 2 egress (mean 212.77 Mbps)
- Flow 3 ingress (mean 204.75 Mbps)
- Flow 3 egress (mean 204.58 Mbps)

**Delay (ms):**
- Flow 1 (95th percentile 225.26 ms)
- Flow 2 (95th percentile 134.62 ms)
- Flow 3 (95th percentile 137.42 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-20 13:52:31
End at: 2019-02-20 13:53:01
Local clock offset: 0.007 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-02-20 18:50:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 492.55 Mbit/s
  95th percentile per-packet one-way delay: 136.679 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 314.52 Mbit/s
  95th percentile per-packet one-way delay: 137.174 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 171.82 Mbit/s
  95th percentile per-packet one-way delay: 133.495 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 193.49 Mbit/s
  95th percentile per-packet one-way delay: 140.042 ms
  Loss rate: 0.00%
Run 3: Report of PCC-Vivace — Data Link

![Graph showing throughput and packet delay over time for Run 3: Report of PCC-Vivace — Data Link.]

Throughput (Mb/s)

- Flow 1 ingress (mean 314.54 Mb/s)
- Flow 1 egress (mean 314.52 Mb/s)
- Flow 2 ingress (mean 171.82 Mb/s)
- Flow 2 egress (mean 171.82 Mb/s)
- Flow 3 ingress (mean 193.49 Mb/s)
- Flow 3 egress (mean 193.49 Mb/s)

Packet delay (ms)

- Flow 1 (95th percentile 137.17 ms)
- Flow 2 (95th percentile 133.50 ms)
- Flow 3 (95th percentile 140.04 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-20 14:45:43
End at: 2019-02-20 14:46:13
Local clock offset: -0.552 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 544.48 Mbit/s
95th percentile per-packet one-way delay: 138.252 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 326.81 Mbit/s
95th percentile per-packet one-way delay: 143.582 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 261.55 Mbit/s
95th percentile per-packet one-way delay: 136.183 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.70 Mbit/s
95th percentile per-packet one-way delay: 137.400 ms
Loss rate: 0.00%
Run 4: Report of PCC-Vivace — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 328.17 Mbps)
  - Flow 1 egress (mean 326.81 Mbps)
  - Flow 2 ingress (mean 261.55 Mbps)
  - Flow 2 egress (mean 261.55 Mbps)
  - Flow 3 ingress (mean 132.60 Mbps)
  - Flow 3 egress (mean 132.79 Mbps)

- **Delay (ms):**
  - Flow 1 (95th percentile 143.58 ms)
  - Flow 2 (95th percentile 136.18 ms)
  - Flow 3 (95th percentile 137.40 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-20 15:36:41
End at: 2019-02-20 15:37:11
Local clock offset: -0.438 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 484.49 Mbit/s
  95th percentile per-packet one-way delay: 196.591 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 326.14 Mbit/s
  95th percentile per-packet one-way delay: 230.308 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 172.20 Mbit/s
  95th percentile per-packet one-way delay: 134.767 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 132.90 Mbit/s
  95th percentile per-packet one-way delay: 134.910 ms
  Loss rate: 0.00%
Run 5: Report of PCC-Vivace — Data Link

![Graph of throughput and delay over time for three flows with different ingress and egress rates.](image-url)
Run 1: Statistics of WebRTC media

Start at: 2019-02-20 12:28:59
End at: 2019-02-20 12:29:29
Local clock offset: 0.006 ms
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 133.297 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 133.003 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 133.365 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 133.010 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2019-02-20 13:18:19
End at: 2019-02-20 13:18:49
Local clock offset: 0.054 ms
Remote clock offset: -0.397 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 132.690 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.615 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.723 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.700 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

![Graph of WebRTC media data link]

- Flow 1 ingress (mean 0.05 Mbit/s)
- Flow 1 egress (mean 0.05 Mbit/s)
- Flow 2 ingress (mean 0.05 Mbit/s)
- Flow 2 egress (mean 0.05 Mbit/s)
- Flow 3 ingress (mean 0.05 Mbit/s)
- Flow 3 egress (mean 0.05 Mbit/s)

![Graph of WebRTC media delay]

- Flow 1 (95th percentile 132.62 ms)
- Flow 2 (95th percentile 132.72 ms)
- Flow 3 (95th percentile 132.70 ms)
Run 3: Statistics of WebRTC media

Start at: 2019-02-20 14:10:13
End at: 2019-02-20 14:10:43
Local clock offset: -0.128 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.220 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.190 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.324 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.252 ms
Loss rate: 0.05%
Run 3: Report of WebRTC media — Data Link

![Graph of throughput and per-packet round-trip delay versus time for different flows.

Graph 1: Throughput (Mbps).
Graph 2: Per-packet round-trip delay (ms).
Flow 1 ingress (mean 0.05 Mbps), Flow 1 egress (mean 0.05 Mbps), Flow 2 ingress (mean 0.04 Mbps), Flow 2 egress (mean 0.04 Mbps), Flow 3 ingress (mean 0.04 Mbps), Flow 3 egress (mean 0.02 Mbps).

Flow 1 (95th percentile 133.19 ms), Flow 2 (95th percentile 132.32 ms), Flow 3 (95th percentile 132.25 ms).
Run 4: Statistics of WebRTC media

Start at: 2019-02-20 15:02:42
End at: 2019-02-20 15:03:12
Local clock offset: -0.418 ms
Remote clock offset: 0.269 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 133.788 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 133.794 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 133.757 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.883 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

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

- Blue dashed line: Flow 1 ingress (mean 1.96 Mbit/s)
- Blue solid line: Flow 1 egress (mean 1.96 Mbit/s)
- Green dashed line: Flow 2 ingress (mean 1.10 Mbit/s)
- Green solid line: Flow 2 egress (mean 1.10 Mbit/s)
- Red dashed line: Flow 3 ingress (mean 0.05 Mbit/s)
- Red solid line: Flow 3 egress (mean 0.05 Mbit/s)

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

- Blue dots: Flow 1 (95th percentile 133.79 ms)
- Green dots: Flow 2 (95th percentile 133.76 ms)
- Red dots: Flow 3 (95th percentile 133.88 ms)
Run 5: Statistics of WebRTC media

Start at: 2019-02-20 15:54:28
End at: 2019-02-20 15:54:58
Local clock offset: -0.273 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2019-02-20 18:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.084 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.136 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.590 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link