Pantheon Report

Data path: GCE Tokyo on ens4 (remote) → GCE Sydney on ens4 (local).
Repeated the test of 24 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 4.15.0-1036-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 @ de42328552b377a75a932a94dfaf0d722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7e6a17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babc2d2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e694aa8e93b032143cedb2e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0edbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179ea9ab4a906ce687c3f3c
third_party/muses @ 5ce721187ad823da2095537730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61db9e92d708a8869fbb84eb3200
third_party/pantheon-tunnel @ f8663f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1af9c958fa0d66d18b623c091a55fe872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M receiver/src/buffer.h
M receiver/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08f6a924eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3c4f42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3dbb2
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
test from GCE Tokyo to GCE Sydney, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
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<tbody>
<tr>
<td></td>
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<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
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<td>TCP BBR</td>
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<td>451.36</td>
<td>400.59</td>
<td>381.35</td>
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<td>Copa</td>
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<td>222.65</td>
<td>237.62</td>
<td>196.95</td>
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<td>397.54</td>
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Run 1: Statistics of TCP BBR

End at: 2019-07-18 21:25:40
Local clock offset: -0.583 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2019-07-19 00:54:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 861.50 Mbit/s
95th percentile per-packet one-way delay: 223.017 ms
Loss rate: 2.69%
-- Flow 1:
Average throughput: 447.90 Mbit/s
95th percentile per-packet one-way delay: 228.655 ms
Loss rate: 2.49%
-- Flow 2:
Average throughput: 420.20 Mbit/s
95th percentile per-packet one-way delay: 179.123 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 406.99 Mbit/s
95th percentile per-packet one-way delay: 234.450 ms
Loss rate: 6.17%
Run 1: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 457.59 Mbit/s)
- Flow 1 egress (mean 447.90 Mbit/s)
- Flow 2 ingress (mean 413.15 Mbit/s)
- Flow 2 egress (mean 420.29 Mbit/s)
- Flow 3 ingress (mean 426.78 Mbit/s)
- Flow 3 egress (mean 406.99 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 228.66 ms)
- Flow 2 (95th percentile 179.12 ms)
- Flow 3 (95th percentile 234.45 ms)
Run 2: Statistics of TCP BBR

Start at: 2019-07-18 22:06:03
End at: 2019-07-18 22:06:33
Local clock offset: 0.286 ms
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2019-07-19 00:54:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.38 Mbit/s
95th percentile per-packet one-way delay: 205.317 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 451.32 Mbit/s
95th percentile per-packet one-way delay: 205.741 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 324.06 Mbit/s
95th percentile per-packet one-way delay: 196.462 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 298.84 Mbit/s
95th percentile per-packet one-way delay: 218.874 ms
Loss rate: 3.70%
Run 2: Report of TCP BBR — Data Link
Run 3: Statistics of TCP BBR

Local clock offset: -0.284 ms
Remote clock offset: 0.685 ms

# Below is generated by plot.py at 2019-07-19 00:54:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 809.02 Mbit/s
95th percentile per-packet one-way delay: 214.669 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 428.02 Mbit/s
95th percentile per-packet one-way delay: 220.771 ms
Loss rate: 3.36%
-- Flow 2:
Average throughput: 374.70 Mbit/s
95th percentile per-packet one-way delay: 222.115 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 400.25 Mbit/s
95th percentile per-packet one-way delay: 189.455 ms
Loss rate: 1.83%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Local clock offset: -0.091 ms
Remote clock offset: -0.177 ms

# Below is generated by plot.py at 2019-07-19 00:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 888.34 Mbit/s
95th percentile per-packet one-way delay: 203.707 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 469.14 Mbit/s
95th percentile per-packet one-way delay: 205.476 ms
Loss rate: 2.32%
-- Flow 2:
Average throughput: 440.47 Mbit/s
95th percentile per-packet one-way delay: 153.300 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 382.84 Mbit/s
95th percentile per-packet one-way delay: 230.240 ms
Loss rate: 6.65%
Run 4: Report of TCP BBR — Data Link

[Graph showing throughput and packet inter-arrival delay over time for different flows, with annotations for each graph.]

12
Run 5: Statistics of TCP BBR

Start at: 2019-07-19 00:08:10
End at: 2019-07-19 00:08:40
Local clock offset: 0.277 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2019-07-19 00:55:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 893.11 Mbit/s
95th percentile per-packet one-way delay: 188.524 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 460.44 Mbit/s
95th percentile per-packet one-way delay: 186.669 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 443.50 Mbit/s
95th percentile per-packet one-way delay: 169.596 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 417.81 Mbit/s
95th percentile per-packet one-way delay: 199.120 ms
Loss rate: 3.91%
Run 5: Report of TCP BBR — Data Link

Graphs showing the throughput and per-packet one-way delay for different flows.
Run 1: Statistics of Copa

Start at: 2019-07-18 21:10:03
End at: 2019-07-18 21:10:33
Local clock offset: −0.506 ms
Remote clock offset: −0.013 ms

# Below is generated by plot.py at 2019-07-19 00:55:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.27 Mbit/s
95th percentile per-packet one-way delay: 78.313 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 185.98 Mbit/s
95th percentile per-packet one-way delay: 81.016 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 259.10 Mbit/s
95th percentile per-packet one-way delay: 79.963 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 230.72 Mbit/s
95th percentile per-packet one-way delay: 72.184 ms
Loss rate: 2.76%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-07-18 21:51:08
Local clock offset: 0.022 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2019-07-19 00:56:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 499.39 Mbit/s
  95th percentile per-packet one-way delay: 74.896 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 263.63 Mbit/s
  95th percentile per-packet one-way delay: 76.876 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 243.23 Mbit/s
  95th percentile per-packet one-way delay: 69.758 ms
  Loss rate: 1.08%
-- Flow 3:
  Average throughput: 227.19 Mbit/s
  95th percentile per-packet one-way delay: 80.533 ms
  Loss rate: 0.11%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

End at: 2019-07-18 22:32:10
Local clock offset: 0.185 ms
Remote clock offset: 0.104 ms

# Below is generated by plot.py at 2019-07-19 00:56:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.73 Mbit/s
95th percentile per-packet one-way delay: 79.210 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 206.86 Mbit/s
95th percentile per-packet one-way delay: 79.398 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 178.14 Mbit/s
95th percentile per-packet one-way delay: 79.768 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 144.03 Mbit/s
95th percentile per-packet one-way delay: 65.865 ms
Loss rate: 1.31%
Run 3: Report of Copa — Data Link

![Graph showing throughput and packet delay over time for different flows.]
Run 4: Statistics of Copa

Start at: 2019-07-18 23:12:08
End at: 2019-07-18 23:12:38
Local clock offset: -0.333 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-07-19 01:09:43
# Datalink statistics
-- Total of 3 flows:
95th percentile per-packet one-way delay: 77.091 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 265.42 Mbit/s
95th percentile per-packet one-way delay: 72.009 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 246.81 Mbit/s
95th percentile per-packet one-way delay: 82.676 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 223.39 Mbit/s
95th percentile per-packet one-way delay: 76.616 ms
Loss rate: 1.27%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Local clock offset: ~0.093 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-07-19 01:09:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.48 Mbit/s
95th percentile per-packet one-way delay: 78.109 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 191.36 Mbit/s
95th percentile per-packet one-way delay: 73.259 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 260.83 Mbit/s
95th percentile per-packet one-way delay: 76.526 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 159.44 Mbit/s
95th percentile per-packet one-way delay: 112.041 ms
Loss rate: 1.55%
Run 5: Report of Copa — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.](image-url)
Run 1: Statistics of TCP Cubic

Local clock offset: -0.59 ms
Remote clock offset: -0.169 ms

# Below is generated by plot.py at 2019-07-19 01:09:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 715.01 Mbit/s
95th percentile per-packet one-way delay: 96.936 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 371.48 Mbit/s
95th percentile per-packet one-way delay: 79.658 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 321.92 Mbit/s
95th percentile per-packet one-way delay: 107.839 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 392.64 Mbit/s
95th percentile per-packet one-way delay: 84.002 ms
Loss rate: 1.66%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2019-07-18 22:08:00  
End at: 2019-07-18 22:08:30  
Local clock offset: 0.125 ms  
Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2019-07-19 01:10:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 887.44 Mbit/s
95th percentile per-packet one-way delay: 132.602 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 441.20 Mbit/s
95th percentile per-packet one-way delay: 83.269 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 479.99 Mbit/s
95th percentile per-packet one-way delay: 147.152 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 385.33 Mbit/s
95th percentile per-packet one-way delay: 88.962 ms
Loss rate: 1.48%
Run 2: Report of TCP Cubic — Data Link

Throughput (Mbps)

Time (s)

0 10 20 30

Flow 1 ingress (mean 441.33 Mbps)  Flow 1 egress (mean 441.20 Mbps)
Flow 2 ingress (mean 481.42 Mbps)  Flow 2 egress (mean 479.99 Mbps)
Flow 3 ingress (mean 396.62 Mbps)  Flow 3 egress (mean 385.33 Mbps)

Per-packet one-way delay (ms)

Time (s)

0 10 20 30

Flow 1 (95th percentile 83.27 ms)  Flow 2 (95th percentile 147.15 ms)  Flow 3 (95th percentile 88.96 ms)
Run 3: Statistics of TCP Cubic

Local clock offset: -0.314 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-07-19 01:10:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 800.44 Mbit/s
95th percentile per-packet one-way delay: 126.348 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 324.56 Mbit/s
95th percentile per-packet one-way delay: 60.242 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 494.76 Mbit/s
95th percentile per-packet one-way delay: 117.246 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 445.50 Mbit/s
95th percentile per-packet one-way delay: 140.673 ms
Loss rate: 2.32%
Run 3: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 325.56 Mbit/s)
- Flow 1 egress (mean 324.56 Mbit/s)
- Flow 2 ingress (mean 496.14 Mbit/s)
- Flow 2 egress (mean 494.76 Mbit/s)
- Flow 3 ingress (mean 450.84 Mbit/s)
- Flow 3 egress (mean 445.50 Mbit/s)

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

- Flow 1 (95th percentile 60.24 ms)
- Flow 2 (95th percentile 117.25 ms)
- Flow 3 (95th percentile 146.67 ms)
Run 4: Statistics of TCP Cubic

Local clock offset: 0.021 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-07-19 01:11:04
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 820.58 Mbit/s
   95th percentile per-packet one-way delay: 106.055 ms
   Loss rate: 0.81%
-- Flow 1:
   Average throughput: 466.13 Mbit/s
   95th percentile per-packet one-way delay: 111.872 ms
   Loss rate: 0.56%
-- Flow 2:
   Average throughput: 329.97 Mbit/s
   95th percentile per-packet one-way delay: 83.106 ms
   Loss rate: 0.95%
-- Flow 3:
   Average throughput: 409.94 Mbit/s
   95th percentile per-packet one-way delay: 88.041 ms
   Loss rate: 1.45%
Run 4: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 466.99 Mbit/s)
- Flow 1 egress (mean 466.13 Mbit/s)
- Flow 2 ingress (mean 331.24 Mbit/s)
- Flow 2 egress (mean 329.97 Mbit/s)
- Flow 3 ingress (mean 410.89 Mbit/s)
- Flow 3 egress (mean 409.94 Mbit/s)

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

- Flow 1 (95th percentile 111.87 ms)
- Flow 2 (95th percentile 83.11 ms)
- Flow 3 (95th percentile 88.04 ms)
Run 5: Statistics of TCP Cubic

Start at: 2019-07-19 00:10:13
End at: 2019-07-19 00:10:43
Local clock offset: 0.327 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2019-07-19 01:12:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 864.23 Mbit/s
  95th percentile per-packet one-way delay: 170.799 ms
  Loss rate: 0.77%
-- Flow 1:
  Average throughput: 490.77 Mbit/s
  95th percentile per-packet one-way delay: 112.125 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 361.07 Mbit/s
  95th percentile per-packet one-way delay: 167.014 ms
  Loss rate: 1.01%
-- Flow 3:
  Average throughput: 404.65 Mbit/s
  95th percentile per-packet one-way delay: 205.441 ms
  Loss rate: 1.29%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

End at: 2019-07-18 20:59:52
Local clock offset: 0.084 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2019-07-19 01:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 901.38 Mbit/s
95th percentile per-packet one-way delay: 66.412 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 559.93 Mbit/s
95th percentile per-packet one-way delay: 69.456 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 372.90 Mbit/s
95th percentile per-packet one-way delay: 60.418 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 285.65 Mbit/s
95th percentile per-packet one-way delay: 63.542 ms
Loss rate: 1.57%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Local clock offset: 0.295 ms
Remote clock offset: 0.767 ms

# Below is generated by plot.py at 2019-07-19 01:27:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 830.78 Mbit/s
95th percentile per-packet one-way delay: 85.678 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 521.77 Mbit/s
95th percentile per-packet one-way delay: 91.001 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 340.74 Mbit/s
95th percentile per-packet one-way delay: 60.694 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 251.42 Mbit/s
95th percentile per-packet one-way delay: 60.667 ms
Loss rate: 1.51%
Run 2: Report of FillP — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 521.79 Mbps)
- Flow 1 egress (mean 521.77 Mbps)
- Flow 2 ingress (mean 340.22 Mbps)
- Flow 2 egress (mean 340.74 Mbps)
- Flow 3 ingress (mean 251.86 Mbps)
- Flow 3 egress (mean 251.42 Mbps)

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

- Flow 1 (95th percentile 91.00 ms)
- Flow 2 (95th percentile 60.69 ms)
- Flow 3 (95th percentile 60.67 ms)
Run 3: Statistics of FillP

Local clock offset: -0.132 ms
Remote clock offset: -0.824 ms

# Below is generated by plot.py at 2019-07-19 01:27:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 460.15 Mbit/s
95th percentile per-packet one-way delay: 74.715 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 150.50 Mbit/s
95th percentile per-packet one-way delay: 97.899 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 344.50 Mbit/s
95th percentile per-packet one-way delay: 61.139 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 246.38 Mbit/s
95th percentile per-packet one-way delay: 59.875 ms
Loss rate: 1.87%
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2019-07-18 23:01:47
End at: 2019-07-18 23:02:17
Local clock offset: -0.018 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-07-19 01:28:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.10 Mbit/s
95th percentile per-packet one-way delay: 114.118 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 488.59 Mbit/s
95th percentile per-packet one-way delay: 118.722 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 344.77 Mbit/s
95th percentile per-packet one-way delay: 60.296 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 229.94 Mbit/s
95th percentile per-packet one-way delay: 65.748 ms
Loss rate: 1.32%
Run 4: Report of FillP — Data Link

![Throughput Graph](image1)

Throughput (Mb/s)

- Flow 1 ingress (mean 494.11 Mb/s)
- Flow 1 egress (mean 488.59 Mb/s)
- Flow 2 ingress (mean 345.66 Mb/s)
- Flow 2 egress (mean 344.77 Mb/s)
- Flow 3 ingress (mean 236.53 Mb/s)
- Flow 3 egress (mean 229.04 Mb/s)

![Delay Graph](image2)

Per-packet one way delay (ms)

- Flow 1 (95th percentile 118.72 ms)
- Flow 2 (95th percentile 60.30 ms)
- Flow 3 (95th percentile 65.75 ms)
Run 5: Statistics of FillP

Local clock offset: 0.446 ms
Remote clock offset: -0.185 ms

# Below is generated by plot.py at 2019-07-19 01:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 818.52 Mbit/s
95th percentile per-packet one-way delay: 92.623 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 502.57 Mbit/s
95th percentile per-packet one-way delay: 95.705 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 336.26 Mbit/s
95th percentile per-packet one-way delay: 63.182 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 282.27 Mbit/s
95th percentile per-packet one-way delay: 63.477 ms
Loss rate: 1.81%
Run 5: Report of FillP — Data Link

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

- Flow 1 ingress (mean 501.89 Mb/s)
- Flow 1 egress (mean 502.57 Mb/s)
- Flow 2 ingress (mean 336.56 Mb/s)
- Flow 2 egress (mean 336.26 Mb/s)
- Flow 3 ingress (mean 284.19 Mb/s)
- Flow 3 egress (mean 282.27 Mb/s)

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

- Flow 1 (95th percentile 95.70 ms)
- Flow 2 (95th percentile 63.18 ms)
- Flow 3 (95th percentile 63.48 ms)
Run 1: Statistics of FillP-Sheep

Local clock offset: -0.326 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2019-07-19 01:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 747.14 Mbit/s
  95th percentile per-packet one-way delay: 74.317 ms
  Loss rate: 0.52%
-- Flow 1:
  Average throughput: 468.12 Mbit/s
  95th percentile per-packet one-way delay: 79.732 ms
  Loss rate: 0.46%
-- Flow 2:
  Average throughput: 306.37 Mbit/s
  95th percentile per-packet one-way delay: 62.189 ms
  Loss rate: 0.37%
-- Flow 3:
  Average throughput: 230.37 Mbit/s
  95th percentile per-packet one-way delay: 62.006 ms
  Loss rate: 1.26%
Run 1: Report of FillP-Sheep — Data Link
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-18 22:04:19
End at: 2019-07-18 22:04:49
Local clock offset: 0.371 ms
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2019-07-19 01:29:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 773.57 Mbit/s
95th percentile per-packet one-way delay: 103.348 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 492.98 Mbit/s
95th percentile per-packet one-way delay: 108.865 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 306.34 Mbit/s
95th percentile per-packet one-way delay: 63.314 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 235.24 Mbit/s
95th percentile per-packet one-way delay: 60.395 ms
Loss rate: 1.36%
Run 2: Report of FillP-Sheep — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 494.49 Mbit/s)
Flow 1 egress (mean 492.98 Mbit/s)
Flow 2 ingress (mean 306.24 Mbit/s)
Flow 2 egress (mean 306.34 Mbit/s)
Flow 3 ingress (mean 235.77 Mbit/s)
Flow 3 egress (mean 235.24 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 108.86 ms)
Flow 2 (95th percentile 63.31 ms)
Flow 3 (95th percentile 60.40 ms)
Run 3: Statistics of FillP-Sheep

End at: 2019-07-18 22:45:09
Local clock offset: 0.215 ms
Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2019-07-19 01:29:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 724.98 Mbit/s
  95th percentile per-packet one-way delay: 76.934 ms
  Loss rate: 0.78%
-- Flow 1:
  Average throughput: 449.28 Mbit/s
  95th percentile per-packet one-way delay: 83.385 ms
  Loss rate: 0.59%
-- Flow 2:
  Average throughput: 299.97 Mbit/s
  95th percentile per-packet one-way delay: 64.828 ms
  Loss rate: 1.05%
-- Flow 3:
  Average throughput: 232.24 Mbit/s
  95th percentile per-packet one-way delay: 61.137 ms
  Loss rate: 1.19%
Run 3: Report of FillP-Sheep — Data Link

![Graph showing network performance metrics](image)

- **Throughput**: The graph illustrates the throughput over time for different flows.
- **Latency**: The second graph shows the per-packet round-trip delay for each flow.

Legend:
- Flow 1 ingress (mean 450.20 Mbit/s)
- Flow 2 ingress (mean 301.22 Mbit/s)
- Flow 3 ingress (mean 232.26 Mbit/s)
- Flow 1 egress (mean 449.28 Mbit/s)
- Flow 2 egress (mean 299.97 Mbit/s)
- Flow 3 egress (mean 232.24 Mbit/s)
Run 4: Statistics of FillP-Sheep

End at: 2019-07-18 23:25:56
Local clock offset: -0.067 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2019-07-19 01:36:18
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 776.50 Mbit/s
  95th percentile per-packet one-way delay: 73.661 ms
  Loss rate: 0.48%
-- Flow 1:
  Average throughput: 491.20 Mbit/s
  95th percentile per-packet one-way delay: 80.363 ms
  Loss rate: 0.37%
-- Flow 2:
  Average throughput: 309.92 Mbit/s
  95th percentile per-packet one-way delay: 68.261 ms
  Loss rate: 0.45%
-- Flow 3:
  Average throughput: 242.47 Mbit/s
  95th percentile per-packet one-way delay: 63.115 ms
  Loss rate: 1.25%
Run 4: Report of FillP-Sheep — Data Link

Graph 1: Throughput (Mbps)
- **Flow 1 Ingress** (mean 490.87 Mbps)
- **Flow 1 Egress** (mean 491.26 Mbps)
- **Flow 2 Ingress** (mean 309.76 Mbps)
- **Flow 2 Egress** (mean 309.92 Mbps)
- **Flow 3 Ingress** (mean 242.64 Mbps)
- **Flow 3 Egress** (mean 242.47 Mbps)

Graph 2: Per-packet end-to-end delay (ms)
- Flow 1 (95th percentile 80.36 ms)
- Flow 2 (95th percentile 68.26 ms)
- Flow 3 (95th percentile 63.12 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-19 00:06:23
End at: 2019-07-19 00:06:53
Local clock offset: -0.122 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-07-19 01:37:27
# Datalink statistics
   -- Total of 3 flows:
   Average throughput: 787.74 Mbit/s
95th percentile per-packet one-way delay: 67.621 ms
Loss rate: 0.40%
   -- Flow 1:
   Average throughput: 498.07 Mbit/s
95th percentile per-packet one-way delay: 69.628 ms
Loss rate: 0.21%
   -- Flow 2:
   Average throughput: 312.33 Mbit/s
95th percentile per-packet one-way delay: 66.666 ms
Loss rate: 0.56%
   -- Flow 3:
   Average throughput: 250.57 Mbit/s
95th percentile per-packet one-way delay: 62.098 ms
Loss rate: 1.13%
Run 5: Report of FillP-Sheep — Data Link

![Graphic](image_url)

**Throughput (Mbps)**

Flow 1 ingress (mean 497.31 Mbps)  
Flow 1 egress (mean 498.07 Mbps)  
Flow 2 ingress (mean 311.96 Mbps)  
Flow 2 egress (mean 312.33 Mbps)  
Flow 3 ingress (mean 250.71 Mbps)  
Flow 3 egress (mean 250.57 Mbps)

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

Flow 1 (95th percentile 69.63 ms)  
Flow 2 (95th percentile 66.67 ms)  
Flow 3 (95th percentile 62.10 ms)
Run 1: Statistics of Indigo

End at: 2019-07-18 21:06:54
Local clock offset: -0.386 ms
Remote clock offset: -0.243 ms

# Below is generated by plot.py at 2019-07-19 01:42:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 413.66 Mbit/s
95th percentile per-packet one-way delay: 61.207 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 217.27 Mbit/s
95th percentile per-packet one-way delay: 61.390 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 209.28 Mbit/s
95th percentile per-packet one-way delay: 61.202 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 161.03 Mbit/s
95th percentile per-packet one-way delay: 60.733 ms
Loss rate: 1.33%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Local clock offset: -0.347 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-07-19 01:44:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.25 Mbit/s
95th percentile per-packet one-way delay: 64.284 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 219.29 Mbit/s
95th percentile per-packet one-way delay: 63.541 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 198.41 Mbit/s
95th percentile per-packet one-way delay: 65.610 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 157.11 Mbit/s
95th percentile per-packet one-way delay: 64.763 ms
Loss rate: 1.38%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2019-07-18 22:28:02
Local clock offset: -0.016 ms
Remote clock offset: 0.014 ms

# Below is generated by plot.py at 2019-07-19 01:44:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.99 Mbit/s
95th percentile per-packet one-way delay: 66.455 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 209.81 Mbit/s
95th percentile per-packet one-way delay: 64.500 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 189.32 Mbit/s
95th percentile per-packet one-way delay: 65.627 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 165.58 Mbit/s
95th percentile per-packet one-way delay: 77.700 ms
Loss rate: 2.03%
Run 3: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 210.45 Mbit/s) and egress (mean 209.81 Mbit/s)
- Flow 2 ingress (mean 190.01 Mbit/s) and egress (mean 189.32 Mbit/s)
- Flow 3 ingress (mean 167.04 Mbit/s) and egress (mean 165.58 Mbit/s)

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

- Flow 1 (95th percentile 64.50 ms)
- Flow 2 (95th percentile 65.63 ms)
- Flow 3 (95th percentile 77.70 ms)
Run 4: Statistics of Indigo

End at: 2019-07-18 23:08:58
Local clock offset: 0.12 ms
Remote clock offset: -0.576 ms

# Below is generated by plot.py at 2019-07-19 01:44:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.96 Mbit/s
95th percentile per-packet one-way delay: 66.618 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 216.63 Mbit/s
95th percentile per-packet one-way delay: 67.633 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 195.07 Mbit/s
95th percentile per-packet one-way delay: 66.157 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 156.64 Mbit/s
95th percentile per-packet one-way delay: 61.040 ms
Loss rate: 1.35%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2019-07-18 23:49:45
End at: 2019-07-18 23:50:15
Local clock offset: 0.499 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2019-07-19 01:44:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 393.58 Mbit/s
  95th percentile per-packet one-way delay: 65.216 ms
  Loss rate: 0.89%
-- Flow 1:
  Average throughput: 213.73 Mbit/s
  95th percentile per-packet one-way delay: 62.972 ms
  Loss rate: 0.63%
-- Flow 2:
  Average throughput: 188.06 Mbit/s
  95th percentile per-packet one-way delay: 68.528 ms
  Loss rate: 1.10%
-- Flow 3:
  Average throughput: 170.71 Mbit/s
  95th percentile per-packet one-way delay: 60.842 ms
  Loss rate: 1.40%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesC3

Local clock offset: -0.339 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-07-19 01:44:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 713.56 Mbit/s
  95th percentile per-packet one-way delay: 71.678 ms
  Loss rate: 0.93%
-- Flow 1:
  Average throughput: 421.92 Mbit/s
  95th percentile per-packet one-way delay: 73.413 ms
  Loss rate: 0.43%
-- Flow 2:
  Average throughput: 365.05 Mbit/s
  95th percentile per-packet one-way delay: 68.552 ms
  Loss rate: 0.82%
-- Flow 3:
  Average throughput: 223.50 Mbit/s
  95th percentile per-packet one-way delay: 64.138 ms
  Loss rate: 4.74%

65
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-18 21:56:54
Local clock offset: -0.333 ms
Remote clock offset: -0.609 ms

# Below is generated by plot.py at 2019-07-19 01:50:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.99 Mbit/s
95th percentile per-packet one-way delay: 70.109 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 418.86 Mbit/s
95th percentile per-packet one-way delay: 72.600 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 368.82 Mbit/s
95th percentile per-packet one-way delay: 60.482 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 255.23 Mbit/s
95th percentile per-packet one-way delay: 65.208 ms
Loss rate: 2.17%
Run 2: Report of Indigo-MusesC3 — Data Link

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

- **Flow 1** ingress (mean 420.54 Mbit/s)
- **Flow 1** egress (mean 418.86 Mbit/s)
- **Flow 2** ingress (mean 368.34 Mbit/s)
- **Flow 2** egress (mean 368.82 Mbit/s)
- **Flow 3** ingress (mean 256.54 Mbit/s)
- **Flow 3** egress (mean 255.23 Mbit/s)

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

- **Flow 1** (95th percentile 72.60 ms)
- **Flow 2** (95th percentile 60.48 ms)
- **Flow 3** (95th percentile 65.21 ms)
Run 3: Statistics of Indigo-MusesC3

Local clock offset: 0.423 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2019-07-19 01:51:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 707.73 Mbit/s
  95th percentile per-packet one-way delay: 82.969 ms
  Loss rate: 1.22%
-- Flow 1:
  Average throughput: 431.95 Mbit/s
  95th percentile per-packet one-way delay: 86.999 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 349.70 Mbit/s
  95th percentile per-packet one-way delay: 70.935 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 203.51 Mbit/s
  95th percentile per-packet one-way delay: 63.887 ms
  Loss rate: 3.02%
Run 3: Report of Indigo-MusesC3 — Data Link

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

- Flow 1 ingress (mean 434.42 Mbit/s)
- Flow 1 egress (mean 431.95 Mbit/s)
- Flow 2 ingress (mean 352.14 Mbit/s)
- Flow 2 egress (mean 349.70 Mbit/s)
- Flow 3 ingress (mean 206.45 Mbit/s)
- Flow 3 egress (mean 203.51 Mbit/s)

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

- Flow 1 (95th percentile 87.00 ms)
- Flow 2 (95th percentile 70.94 ms)
- Flow 3 (95th percentile 63.89 ms)
Run 4: Statistics of Indigo-MusesC3

Local clock offset: 0.311 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2019-07-19 01:57:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 740.71 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 454.45 Mbit/s
95th percentile per-packet one-way delay: 72.089 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 343.18 Mbit/s
95th percentile per-packet one-way delay: 62.625 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 273.25 Mbit/s
95th percentile per-packet one-way delay: 64.930 ms
Loss rate: 2.35%
Run 4: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flow types. The graphs include distinguishing markers for Flow 1, Flow 2, and Flow 3, with corresponding mean data rates and 95th percentile delays noted in the legend.]
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-18 23:58:56
End at: 2019-07-18 23:59:26
Local clock offset: -0.05 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-07-19 01:57:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 727.85 Mbit/s
95th percentile per-packet one-way delay: 79.457 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 435.92 Mbit/s
95th percentile per-packet one-way delay: 80.323 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 361.37 Mbit/s
95th percentile per-packet one-way delay: 81.582 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 231.41 Mbit/s
95th percentile per-packet one-way delay: 66.471 ms
Loss rate: 2.77%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-18 21:08:15
End at: 2019-07-18 21:08:46
Local clock offset: -0.121 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2019-07-19 01:58:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 723.95 Mbit/s
  95th percentile per-packet one-way delay: 116.294 ms
  Loss rate: 0.74%
-- Flow 1:
  Average throughput: 457.53 Mbit/s
  95th percentile per-packet one-way delay: 120.074 ms
  Loss rate: 0.75%
-- Flow 2:
  Average throughput: 384.86 Mbit/s
  95th percentile per-packet one-way delay: 66.686 ms
  Loss rate: 0.60%
-- Flow 3:
  Average throughput: 98.25 Mbit/s
  95th percentile per-packet one-way delay: 57.394 ms
  Loss rate: 2.03%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Local clock offset: -0.148 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-07-19 01:58:07
# Datalink statistics
## Total of 3 flows:
Average throughput: 717.47 Mbit/s
95th percentile per-packet one-way delay: 87.169 ms
Loss rate: 0.69%

## Flow 1:
Average throughput: 472.15 Mbit/s
95th percentile per-packet one-way delay: 90.687 ms
Loss rate: 0.74%

## Flow 2:
Average throughput: 346.14 Mbit/s
95th percentile per-packet one-way delay: 80.654 ms
Loss rate: 0.46%

## Flow 3:
Average throughput: 100.53 Mbit/s
95th percentile per-packet one-way delay: 57.609 ms
Loss rate: 1.70%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

End at: 2019-07-18 22:30:21
Local clock offset: -0.13 ms
Remote clock offset: 0.724 ms

# Below is generated by plot.py at 2019-07-19 01:58:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 725.23 Mbit/s
  95th percentile per-packet one-way delay: 92.478 ms
  Loss rate: 0.83%
-- Flow 1:
  Average throughput: 445.80 Mbit/s
  95th percentile per-packet one-way delay: 110.046 ms
  Loss rate: 0.80%
-- Flow 2:
  Average throughput: 361.37 Mbit/s
  95th percentile per-packet one-way delay: 66.712 ms
  Loss rate: 0.34%
-- Flow 3:
  Average throughput: 200.37 Mbit/s
  95th percentile per-packet one-way delay: 62.559 ms
  Loss rate: 3.30%
Run 3: Report of Indigo-MusesC5 — Data Link

![Graph showing throughput and packet round-trip delay over time for different flows. The graphs illustrate the performance of flow ingress and egress, with specific mean values in Mbit/s provided for each flow.](image)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-18 23:10:19
End at: 2019-07-18 23:10:49
Local clock offset: 0.159 ms
Remote clock offset: -0.254 ms

# Below is generated by plot.py at 2019-07-19 01:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 726.07 Mbit/s
95th percentile per-packet one-way delay: 137.773 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 476.47 Mbit/s
95th percentile per-packet one-way delay: 143.244 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 355.92 Mbit/s
95th percentile per-packet one-way delay: 85.722 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 95.34 Mbit/s
95th percentile per-packet one-way delay: 62.037 ms
Loss rate: 1.87%
Run 4: Report of Indigo-MusesC5 — Data Link
Run 5: Statistics of Indigo-MusesC5

End at: 2019-07-18 23:52:05
Local clock offset: -0.31 ms
Remote clock offset: -0.42 ms

# Below is generated by plot.py at 2019-07-19 02:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 698.42 Mbit/s
95th percentile per-packet one-way delay: 87.339 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 452.18 Mbit/s
95th percentile per-packet one-way delay: 89.432 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 347.23 Mbit/s
95th percentile per-packet one-way delay: 84.439 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 98.99 Mbit/s
95th percentile per-packet one-way delay: 57.997 ms
Loss rate: 2.50%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

End at: 2019-07-18 20:54:53
Local clock offset: -0.067 ms
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2019-07-19 02:05:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 673.24 Mbit/s
95th percentile per-packet one-way delay: 78.874 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 430.57 Mbit/s
95th percentile per-packet one-way delay: 80.467 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 266.75 Mbit/s
95th percentile per-packet one-way delay: 71.741 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 292.27 Mbit/s
95th percentile per-packet one-way delay: 60.060 ms
Loss rate: 2.21%
Run 1: Report of Indigo-MusesD — Data Link

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

- Flow 1 ingress (mean 430.02 Mbit/s)
- Flow 1 egress (mean 430.57 Mbit/s)
- Flow 2 ingress (mean 265.81 Mbit/s)
- Flow 2 egress (mean 266.75 Mbit/s)
- Flow 3 ingress (mean 293.89 Mbit/s)
- Flow 3 egress (mean 292.27 Mbit/s)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-18 21:35:46
End at: 2019-07-18 21:36:16
Local clock offset: -0.393 ms
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2019-07-19 02:10:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 687.70 Mbit/s
95th percentile per-packet one-way delay: 79.901 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 405.54 Mbit/s
95th percentile per-packet one-way delay: 81.222 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 334.86 Mbit/s
95th percentile per-packet one-way delay: 77.227 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 261.82 Mbit/s
95th percentile per-packet one-way delay: 61.869 ms
Loss rate: 2.02%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

End at: 2019-07-18 22:17:06
Local clock offset: -0.151 ms
Remote clock offset: -0.447 ms

# Below is generated by plot.py at 2019-07-19 02:10:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 641.20 Mbit/s
95th percentile per-packet one-way delay: 77.462 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 396.04 Mbit/s
95th percentile per-packet one-way delay: 81.081 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 275.52 Mbit/s
95th percentile per-packet one-way delay: 66.216 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 258.59 Mbit/s
95th percentile per-packet one-way delay: 60.992 ms
Loss rate: 2.40%
Run 3: Report of Indigo-MusesD — Data Link

The diagrams illustrate the throughput and per-packet round-trip delay for different flows over time. The first graph shows the throughput (Mbps) for each flow, with distinct lines and markers indicating the mean throughput for ingress and egress of each flow. The second graph displays the per-packet round-trip delay (ms) over time, with markers highlighting the 95th percentile delay for each flow.
Run 4: Statistics of Indigo-MusesD

Local clock offset: -0.016 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2019-07-19 02:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 701.92 Mbit/s
95th percentile per-packet one-way delay: 92.816 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 423.22 Mbit/s
95th percentile per-packet one-way delay: 87.181 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 338.39 Mbit/s
95th percentile per-packet one-way delay: 102.983 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 238.13 Mbit/s
95th percentile per-packet one-way delay: 61.624 ms
Loss rate: 1.89%
Run 4: Report of Indigo-MusesD — Data Link

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

- **Flow 1 ingress (mean 424.51 Mbps)**
- **Flow 1 egress (mean 423.22 Mbps)**
- **Flow 2 ingress (mean 340.31 Mbps)**
- **Flow 2 egress (mean 338.39 Mbps)**
- **Flow 3 ingress (mean 239.01 Mbps)**
- **Flow 3 egress (mean 238.13 Mbps)**

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

- **Flow 1 (95th percentile 87.18 ms)**
- **Flow 2 (95th percentile 102.98 ms)**
- **Flow 3 (95th percentile 61.62 ms)**
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-18 23:37:46
End at: 2019-07-18 23:38:16
Local clock offset: 0.071 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2019-07-19 02:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 697.83 Mbit/s
95th percentile per-packet one-way delay: 80.932 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 419.51 Mbit/s
95th percentile per-packet one-way delay: 83.544 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 350.99 Mbit/s
95th percentile per-packet one-way delay: 78.068 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 213.37 Mbit/s
95th percentile per-packet one-way delay: 63.818 ms
Loss rate: 2.62%
Run 5: Report of Indigo-MusesD — Data Link

[Graphs showing network performance metrics over time]
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-18 21:14:10
End at: 2019-07-18 21:14:40
Local clock offset: -0.18 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2019-07-19 02:13:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 742.94 Mbit/s
95th percentile per-packet one-way delay: 119.209 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 467.27 Mbit/s
95th percentile per-packet one-way delay: 124.542 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 389.80 Mbit/s
95th percentile per-packet one-way delay: 74.385 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 103.10 Mbit/s
95th percentile per-packet one-way delay: 57.858 ms
Loss rate: 1.90%
Run 1: Report of Indigo-MusesT — Data Link

![Throughput Graph]

- Flow 1 ingress (mean 468.77 Mbit/s)
- Flow 1 egress (mean 467.27 Mbit/s)
- Flow 2 ingress (mean 392.11 Mbit/s)
- Flow 2 egress (mean 389.85 Mbit/s)
- Flow 3 ingress (mean 103.49 Mbit/s)
- Flow 3 egress (mean 103.10 Mbit/s)

![Delay Graph]

- Flow 1 (95th percentile 124.54 ms)
- Flow 2 (95th percentile 74.39 ms)
- Flow 3 (95th percentile 57.86 ms)
Run 2: Statistics of Indigo-MusesT

Local clock offset: 0.102 ms
Remote clock offset: 0.109 ms

# Below is generated by plot.py at 2019-07-19 02:14:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 784.99 Mbit/s
  95th percentile per-packet one-way delay: 109.156 ms
  Loss rate: 0.73%
-- Flow 1:
  Average throughput: 463.74 Mbit/s
  95th percentile per-packet one-way delay: 115.476 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 390.61 Mbit/s
  95th percentile per-packet one-way delay: 94.466 ms
  Loss rate: 0.93%
-- Flow 3:
  Average throughput: 263.96 Mbit/s
  95th percentile per-packet one-way delay: 65.342 ms
  Loss rate: 2.32%
Run 2: Report of Indigo-MusesT — Data Link

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

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

- **Flow 1 ingress** (mean 463.62 Mbit/s)
- **Flow 1 egress** (mean 463.74 Mbit/s)
- **Flow 2 ingress** (mean 391.80 Mbit/s)
- **Flow 2 egress** (mean 390.61 Mbit/s)
- **Flow 3 ingress** (mean 296.11 Mbit/s)
- **Flow 3 egress** (mean 263.96 Mbit/s)

- **Flow 1 (95th percentile 115.48 ms)**
- **Flow 2 (95th percentile 94.47 ms)**
- **Flow 3 (95th percentile 65.34 ms)**

98
Run 3: Statistics of Indigo-MusesT

Local clock offset: 0.374 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2019-07-19 02:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 804.72 Mbit/s
95th percentile per-packet one-way delay: 101.988 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 484.38 Mbit/s
95th percentile per-packet one-way delay: 106.642 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 392.65 Mbit/s
95th percentile per-packet one-way delay: 72.186 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 266.91 Mbit/s
95th percentile per-packet one-way delay: 63.640 ms
Loss rate: 1.30%
Run 3: Report of Indigo-MusesT — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 484.90 Mbps)
Flow 1 egress (mean 484.38 Mbps)
Flow 2 ingress (mean 392.29 Mbps)
Flow 2 egress (mean 392.65 Mbps)
Flow 3 ingress (mean 265.96 Mbps)
Flow 3 egress (mean 266.91 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 106.64 ms)
Flow 2 (95th percentile 72.19 ms)
Flow 3 (95th percentile 63.64 ms)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-18 23:16:08
End at: 2019-07-18 23:16:38
Local clock offset: -0.051 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2019-07-19 02:21:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 807.68 Mbit/s
95th percentile per-packet one-way delay: 102.411 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 486.78 Mbit/s
95th percentile per-packet one-way delay: 105.161 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 392.75 Mbit/s
95th percentile per-packet one-way delay: 78.321 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 265.35 Mbit/s
95th percentile per-packet one-way delay: 64.135 ms
Loss rate: 0.48%
Run 4: Report of Indigo-MusesT — Data Link
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-18 23:57:05
Local clock offset: -0.397 ms
Remote clock offset: -0.203 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 797.64 Mbit/s
95th percentile per-packet one-way delay: 116.759 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 485.39 Mbit/s
95th percentile per-packet one-way delay: 120.520 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 387.63 Mbit/s
95th percentile per-packet one-way delay: 110.415 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 247.67 Mbit/s
95th percentile per-packet one-way delay: 63.358 ms
Loss rate: 3.73%
Run 5: Report of Indigo-MusesT — Data Link

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**Throughput (Mbps):**

- **Flow 1 ingress** (mean 486.71 Mbps)
- **Flow 1 egress** (mean 485.39 Mbps)
- **Flow 2 ingress** (mean 389.32 Mbps)
- **Flow 2 egress** (mean 387.63 Mbps)
- **Flow 3 ingress** (mean 253.00 Mbps)
- **Flow 3 egress** (mean 247.67 Mbps)

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

- **Flow 1** (95th percentile 120.52 ms)
- **Flow 2** (95th percentile 110.42 ms)
- **Flow 3** (95th percentile 63.36 ms)

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104
Run 1: Statistics of LEDBAT

Start at: 2019-07-18 21:34:29
End at: 2019-07-18 21:34:59
Local clock offset: -0.179 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.28 Mbit/s
95th percentile per-packet one-way delay: 58.377 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 58.521 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 15.68 Mbit/s
95th percentile per-packet one-way delay: 58.198 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 9.27 Mbit/s
95th percentile per-packet one-way delay: 57.951 ms
Loss rate: 2.34%
Run 1: Report of LEDBAT — Data Link

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

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

Flow 1 ingress (mean 25.70 Mbit/s)  
Flow 1 egress (mean 25.65 Mbit/s)  
Flow 2 ingress (mean 15.79 Mbit/s)  
Flow 2 egress (mean 15.68 Mbit/s)  
Flow 3 ingress (mean 9.38 Mbit/s)  
Flow 3 egress (mean 9.27 Mbit/s)

Flow 1 (95th percentile 58.52 ms)  
Flow 2 (95th percentile 58.20 ms)  
Flow 3 (95th percentile 57.95 ms)
Run 2: Statistics of LEDBAT

End at: 2019-07-18 22:15:49
Local clock offset: -0.355 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.17 Mbit/s
95th percentile per-packet one-way delay: 57.848 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 28.50 Mbit/s
95th percentile per-packet one-way delay: 57.793 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 57.928 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 57.815 ms
Loss rate: 2.32%
Run 2: Report of LEDBAT — Data Link

![Throughput vs Time](image1)

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

Legend:
- Blue dashed: Flow 1 ingress (mean 28.61 Mbit/s)
- Blue solid: Flow 1 egress (mean 28.50 Mbit/s)
- Green dashed: Flow 2 ingress (mean 19.13 Mbit/s)
- Green solid: Flow 2 egress (mean 19.01 Mbit/s)
- Red dashed: Flow 3 ingress (mean 9.37 Mbit/s)
- Red solid: Flow 3 egress (mean 9.25 Mbit/s)

**Throughput vs Time**
- Time (s) on x-axis
- Throughput (Mbps) on y-axis

**Per packet one-way delay vs Time**
- Time (s) on x-axis
- Per packet one-way delay (ms) on y-axis
Run 3: Statistics of LEDBAT

Local clock offset: 0.355 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.89 Mbit/s
95th percentile per-packet one-way delay: 62.621 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 26.52 Mbit/s
95th percentile per-packet one-way delay: 62.896 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 18.84 Mbit/s
95th percentile per-packet one-way delay: 58.621 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 58.800 ms
Loss rate: 2.38%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2019-07-18 23:36:30
End at: 2019-07-18 23:37:00
Local clock offset: 0.05 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 34.52 Mbit/s
  95th percentile per-packet one-way delay: 60.278 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 24.76 Mbit/s
  95th percentile per-packet one-way delay: 58.868 ms
  Loss rate: 0.50%
-- Flow 2:
  Average throughput: 13.08 Mbit/s
  95th percentile per-packet one-way delay: 58.468 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 3.40 Mbit/s
  95th percentile per-packet one-way delay: 60.825 ms
  Loss rate: 3.08%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2019-07-19 00:17:26
End at: 2019-07-19 00:17:56
Local clock offset: -0.011 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2019-07-19 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 61.893 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 25.32 Mbit/s
95th percentile per-packet one-way delay: 62.052 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 17.81 Mbit/s
95th percentile per-packet one-way delay: 61.684 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 9.27 Mbit/s
95th percentile per-packet one-way delay: 58.110 ms
Loss rate: 2.34%

113
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 21:03:07
End at: 2019-07-18 21:03:37
Local clock offset: 0.196 ms
Remote clock offset: -0.213 ms

# Below is generated by plot.py at 2019-07-19 02:27:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 708.12 Mbit/s
95th percentile per-packet one-way delay: 75.935 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 407.36 Mbit/s
95th percentile per-packet one-way delay: 77.461 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 357.20 Mbit/s
95th percentile per-packet one-way delay: 75.390 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 220.14 Mbit/s
95th percentile per-packet one-way delay: 59.533 ms
Loss rate: 1.49%
Run 2: Statistics of Muses\_DecisionTree

Local clock offset: -0.456 ms
Remote clock offset: 0.774 ms

# Below is generated by plot.py at 2019-07-19 02:27:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 689.70 Mbit/s
95th percentile per-packet one-way delay: 68.870 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 399.25 Mbit/s
95th percentile per-packet one-way delay: 67.464 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 324.32 Mbit/s
95th percentile per-packet one-way delay: 76.662 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 239.78 Mbit/s
95th percentile per-packet one-way delay: 60.287 ms
Loss rate: 2.64%
Run 2: Report of Muses_DecisionTree — Data Link
Run 3: Statistics of Muses\_DecisionTree

End at: 2019-07-18 22:25:34
Local clock offset: -0.431 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-07-19 02:27:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 638.61 Mbit/s
95th percentile per-packet one-way delay: 73.750 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 390.52 Mbit/s
95th percentile per-packet one-way delay: 75.332 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 333.56 Mbit/s
95th percentile per-packet one-way delay: 68.212 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 85.93 Mbit/s
95th percentile per-packet one-way delay: 57.728 ms
Loss rate: 3.07%
Run 3: Report of Muses_DevisionTree — Data Link
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 23:05:27
End at: 2019-07-18 23:05:57
Local clock offset: -0.085 ms
Remote clock offset: -0.426 ms

# Below is generated by plot.py at 2019-07-19 02:27:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 656.74 Mbit/s
95th percentile per-packet one-way delay: 74.841 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 352.81 Mbit/s
95th percentile per-packet one-way delay: 78.159 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 339.65 Mbit/s
95th percentile per-packet one-way delay: 72.711 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 252.13 Mbit/s
95th percentile per-packet one-way delay: 63.838 ms
Loss rate: 1.55%
Run 4: Report of Muses

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Decision Tree — Data Link

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Throughput (Mbps):

- **Flow 1 ingress** (mean 352.57 Mbps)
- **Flow 1 egress** (mean 352.81 Mbps)
- **Flow 2 ingress** (mean 338.30 Mbps)
- **Flow 2 egress** (mean 339.65 Mbps)
- **Flow 3 ingress** (mean 253.02 Mbps)
- **Flow 3 egress** (mean 252.13 Mbps)

---

Per-packet end-to-end delay (ms):

- **Flow 1** (95th percentile 78.16 ms)
- **Flow 2** (95th percentile 72.71 ms)
- **Flow 3** (95th percentile 63.84 ms)
Run 5: Statistics of Muses\_DecisionTree

Local clock offset: -0.154 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2019-07-19 02:29:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 708.39 Mbit/s
95th percentile per-packet one-way delay: 76.086 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 392.16 Mbit/s
95th percentile per-packet one-way delay: 76.010 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 369.36 Mbit/s
95th percentile per-packet one-way delay: 71.105 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 229.81 Mbit/s
95th percentile per-packet one-way delay: 106.395 ms
Loss rate: 1.59%
Run 5: Report of Muses

DecisionTree — Data Link

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

Legend:
- Flow 1 ingress (mean 393.56 Mb/s)
- Flow 1 egress (mean 392.16 Mb/s)
- Flow 2 ingress (mean 369.57 Mb/s)
- Flow 2 egress (mean 369.36 Mb/s)
- Flow 3 ingress (mean 230.68 Mb/s)
- Flow 3 egress (mean 229.81 Mb/s)

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

Legend:
- Flow 1 (95th percentile 76.01 ms)
- Flow 2 (95th percentile 71.11 ms)
- Flow 3 (95th percentile 106.39 ms)
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 21:30:56
Local clock offset: -0.183 ms
Remote clock offset: 0.595 ms

# Below is generated by plot.py at 2019-07-19 02:34:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 630.88 Mbit/s
95th percentile per-packet one-way delay: 99.876 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 358.23 Mbit/s
95th percentile per-packet one-way delay: 100.699 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 279.24 Mbit/s
95th percentile per-packet one-way delay: 105.831 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 278.01 Mbit/s
95th percentile per-packet one-way delay: 60.133 ms
Loss rate: 1.34%
Run 1: Report of Muses_DecisionTreeH0 — Data Link

![Graph showing throughput and per-packet one-way delay over time for flows 1, 2, and 3.]

- **Flow 1 ingress (mean 358.33 Mbit/s)**
- **Flow 1 egress (mean 358.23 Mbit/s)**
- **Flow 2 ingress (mean 279.45 Mbit/s)**
- **Flow 2 egress (mean 279.24 Mbit/s)**
- **Flow 3 ingress (mean 278.35 Mbit/s)**
- **Flow 3 egress (mean 278.01 Mbit/s)**

- **Flow 1 (95th percentile 100.70 ms)**
- **Flow 2 (95th percentile 105.83 ms)**
- **Flow 3 (95th percentile 60.13 ms)**
Run 2: Statistics of Muses\_DecisionTreeH0

End at: 2019-07-18 22:12:21
Local clock offset: -0.098 ms
Remote clock offset: 0.099 ms

# Below is generated by plot.py at 2019-07-19 02:34:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.35 Mbit/s
95th percentile per-packet one-way delay: 108.909 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 283.15 Mbit/s
95th percentile per-packet one-way delay: 106.977 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 247.82 Mbit/s
95th percentile per-packet one-way delay: 104.479 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 191.69 Mbit/s
95th percentile per-packet one-way delay: 118.238 ms
Loss rate: 2.12%
Run 2: Report of Muses_DecisionTreeH0 — Data Link
Run 3: Statistics of Muses\_DecisionTreeH0

Local clock offset: 0.165 ms  
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2019-07-19 02:36:37  
# Datalink statistics

-- Total of 3 flows:  
  Average throughput: 559.88 Mbit/s  
  95th percentile per-packet one-way delay: 129.125 ms  
  Loss rate: 1.13%  

-- Flow 1:  
  Average throughput: 281.33 Mbit/s  
  95th percentile per-packet one-way delay: 142.478 ms  
  Loss rate: 1.00%  

-- Flow 2:  
  Average throughput: 301.39 Mbit/s  
  95th percentile per-packet one-way delay: 101.481 ms  
  Loss rate: 1.10%  

-- Flow 3:  
  Average throughput: 253.16 Mbit/s  
  95th percentile per-packet one-way delay: 75.435 ms  
  Loss rate: 1.68%
Run 3: Report of Muses_DecisionTreeH0 — Data Link

![Graphs showing network performance metrics over time.](image-url)
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 23:33:00
End at: 2019-07-18 23:33:30
Local clock offset: -0.412 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-07-19 02:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 607.75 Mbit/s
95th percentile per-packet one-way delay: 119.389 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 338.48 Mbit/s
95th percentile per-packet one-way delay: 133.658 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 285.75 Mbit/s
95th percentile per-packet one-way delay: 95.326 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 258.44 Mbit/s
95th percentile per-packet one-way delay: 66.923 ms
Loss rate: 2.62%
Run 4: Report of Muses_DecisionTreeH0 — Data Link

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

- Flow 1 ingress (mean 339.51 Mb/s)
- Flow 1 egress (mean 338.48 Mb/s)
- Flow 2 ingress (mean 287.30 Mb/s)
- Flow 2 egress (mean 285.75 Mb/s)
- Flow 3 ingress (mean 262.05 Mb/s)
- Flow 3 egress (mean 256.44 Mb/s)

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

- Flow 1 (95th percentile 133.66 ms)
- Flow 2 (95th percentile 95.33 ms)
- Flow 3 (95th percentile 66.92 ms)
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-19 00:13:55
End at: 2019-07-19 00:14:25
Local clock offset: 0.231 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-07-19 02:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.48 Mbit/s
95th percentile per-packet one-way delay: 120.878 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 273.45 Mbit/s
95th percentile per-packet one-way delay: 133.667 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 283.54 Mbit/s
95th percentile per-packet one-way delay: 104.905 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 241.76 Mbit/s
95th percentile per-packet one-way delay: 69.221 ms
Loss rate: 1.23%
Run 5: Report of Muses_DecisionTreeH0 — Data Link

The graphs show the throughput (Mbps) and per-packet one-way delay (ms) over time for different flows. The throughput graph displays the mean throughput for each flow, while the delay graph shows the 95th percentile delay for each flow.

Throughput (Mbps)

- Flow 1 ingress (mean 276.82 Mbps)
- Flow 1 egress (mean 273.45 Mbps)
- Flow 2 ingress (mean 281.81 Mbps)
- Flow 2 egress (mean 283.54 Mbps)
- Flow 3 ingress (mean 241.72 Mbps)
- Flow 3 egress (mean 241.76 Mbps)

Delay (ms)

- Flow 1 (95th percentile 133.67 ms)
- Flow 2 (95th percentile 104.91 ms)
- Flow 3 (95th percentile 69.22 ms)
Run 1: Statistics of Muses\_DecisionTreeR0

Local clock offset: -0.137 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-07-19 02:41:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 685.34 Mbit/s
  95th percentile per-packet one-way delay: 73.672 ms
  Loss rate: 0.70%
-- Flow 1:
  Average throughput: 412.19 Mbit/s
  95th percentile per-packet one-way delay: 75.980 ms
  Loss rate: 0.18%
-- Flow 2:
  Average throughput: 326.00 Mbit/s
  95th percentile per-packet one-way delay: 71.203 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 188.56 Mbit/s
  95th percentile per-packet one-way delay: 60.403 ms
  Loss rate: 1.92%
Run 1: Report of Muses_DecisionTreeR0 — Data Link

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

- Flow 1 ingress (mean 411.34 Mbit/s)
- Flow 1 egress (mean 412.19 Mbit/s)
- Flow 2 ingress (mean 328.37 Mbit/s)
- Flow 2 egress (mean 326.00 Mbit/s)
- Flow 3 ingress (mean 189.85 Mbit/s)
- Flow 3 egress (mean 188.56 Mbit/s)
Run 2: Statistics of Muses\_DecisionTreeR0

End at: 2019-07-18 22:14:00
Local clock offset: 0.119 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2019-07-19 02:42:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 714.79 Mbit/s
95th percentile per-packet one-way delay: 70.772 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 397.02 Mbit/s
95th percentile per-packet one-way delay: 70.500 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 368.66 Mbit/s
95th percentile per-packet one-way delay: 75.403 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 237.09 Mbit/s
95th percentile per-packet one-way delay: 64.899 ms
Loss rate: 2.18%
Run 3: Statistics of Muses\_DecisionTreeR0

End at: 2019-07-18 22:54:09
Local clock offset: -0.378 ms
Remote clock offset: 0.561 ms

# Below is generated by plot.py at 2019-07-19 02:42:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 617.61 Mbit/s
95th percentile per-packet one-way delay: 75.306 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 382.30 Mbit/s
95th percentile per-packet one-way delay: 78.692 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 301.77 Mbit/s
95th percentile per-packet one-way delay: 69.350 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 57.061 ms
Loss rate: 1.81%
Run 3: Report of Muses_DecisionTreeR0 — Data Link

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

**Throughput**
- Flow 1 ingress (mean 383.32 Mbit/s)
- Flow 1 egress (mean 382.30 Mbit/s)
- Flow 2 ingress (mean 301.88 Mbit/s)
- Flow 2 egress (mean 301.77 Mbit/s)
- Flow 3 ingress (mean 113.33 Mbit/s)
- Flow 3 egress (mean 112.70 Mbit/s)

**Delay**
- Flow 1 (95th percentile 78.69 ms)
- Flow 2 (95th percentile 69.35 ms)
- Flow 3 (95th percentile 57.06 ms)
Run 4: Statistics of Muses\_DecisionTreeRO

Start at: 2019-07-18 23:34:44
End at: 2019-07-18 23:35:14
Local clock offset: -0.127 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2019-07-19 02:45:33
# Datalink statistics
- Total of 3 flows:
  - Average throughput: 649.96 Mbit/s
  - 95th percentile per-packet one-way delay: 78.215 ms
  - Loss rate: 0.77%
- Flow 1:
  - Average throughput: 381.78 Mbit/s
  - 95th percentile per-packet one-way delay: 80.125 ms
  - Loss rate: 0.55%
- Flow 2:
  - Average throughput: 290.19 Mbit/s
  - 95th percentile per-packet one-way delay: 75.421 ms
  - Loss rate: 0.96%
- Flow 3:
  - Average throughput: 243.64 Mbit/s
  - 95th percentile per-packet one-way delay: 62.092 ms
  - Loss rate: 1.36%
Run 4: Report of Muses_DocumentTreeR0 — Data Link
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-19 00:15:36
End at: 2019-07-19 00:16:06
Local clock offset: 0.229 ms
Remote clock offset: 0.676 ms

# Below is generated by plot.py at 2019-07-19 02:48:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 721.12 Mbit/s
95th percentile per-packet one-way delay: 74.229 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 429.74 Mbit/s
95th percentile per-packet one-way delay: 75.757 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 392.60 Mbit/s
95th percentile per-packet one-way delay: 73.332 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 105.08 Mbit/s
95th percentile per-packet one-way delay: 57.742 ms
Loss rate: 2.27%
Run 5: Report of Muses_DecisionTreeR0 — Data Link
Run 1: Statistics of PCC-Allegro

Local clock offset: -0.173 ms
Remote clock offset: -0.707 ms

# Below is generated by plot.py at 2019-07-19 03:01:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 621.85 Mbit/s
95th percentile per-packet one-way delay: 223.216 ms
Loss rate: 4.78%
-- Flow 1:
Average throughput: 337.44 Mbit/s
95th percentile per-packet one-way delay: 228.570 ms
Loss rate: 6.95%
-- Flow 2:
Average throughput: 320.09 Mbit/s
95th percentile per-packet one-way delay: 201.031 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 241.84 Mbit/s
95th percentile per-packet one-way delay: 191.005 ms
Loss rate: 1.79%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Local clock offset: -0.378 ms
Remote clock offset: -0.889 ms

# Below is generated by plot.py at 2019-07-19 03:02:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 632.32 Mbit/s
95th percentile per-packet one-way delay: 201.541 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 354.63 Mbit/s
95th percentile per-packet one-way delay: 204.957 ms
Loss rate: 4.80%
-- Flow 2:
Average throughput: 295.17 Mbit/s
95th percentile per-packet one-way delay: 76.123 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 250.81 Mbit/s
95th percentile per-packet one-way delay: 81.923 ms
Loss rate: 1.62%
Run 2: Report of PCC-Allegro — Data Link

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

- **Throughput Graph**
  - Flow 1 ingress (mean 371.04 Mbit/s)
  - Flow 1 egress (mean 354.63 Mbit/s)
  - Flow 2 ingress (mean 295.47 Mbit/s)
  - Flow 2 egress (mean 295.17 Mbit/s)
  - Flow 3 ingress (mean 251.96 Mbit/s)
  - Flow 3 egress (mean 250.81 Mbit/s)

- **Delay Graph**
  - Flow 1 (95th percentile 204.96 ms)
  - Flow 2 (95th percentile 76.12 ms)
  - Flow 3 (95th percentile 81.92 ms)

148
Run 3: Statistics of PCC-Allegro

Local clock offset: -0.001 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2019-07-19 03:03:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 628.08 Mbit/s
  95th percentile per-packet one-way delay: 187.697 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 345.06 Mbit/s
  95th percentile per-packet one-way delay: 200.628 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 309.93 Mbit/s
  95th percentile per-packet one-way delay: 88.490 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 248.59 Mbit/s
  95th percentile per-packet one-way delay: 159.668 ms
  Loss rate: 1.95%
Run 3: Report of PCC-Allegro — Data Link

[Graph and legend]

[Graph and legend]

150
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-18 23:14:10
End at: 2019-07-18 23:14:40
Local clock offset: -0.277 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-07-19 03:06:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.06 Mbit/s
95th percentile per-packet one-way delay: 156.724 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 367.94 Mbit/s
95th percentile per-packet one-way delay: 167.461 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 293.17 Mbit/s
95th percentile per-packet one-way delay: 111.459 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 252.26 Mbit/s
95th percentile per-packet one-way delay: 116.663 ms
Loss rate: 1.30%
Run 5: Statistics of PCC-Allegro

Local clock offset: -0.172 ms
Remote clock offset: -0.237 ms

# Below is generated by plot.py at 2019-07-19 03:06:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.06 Mbit/s
95th percentile per-packet one-way delay: 195.843 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 323.46 Mbit/s
95th percentile per-packet one-way delay: 180.136 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 143.85 Mbit/s
95th percentile per-packet one-way delay: 90.275 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 245.15 Mbit/s
95th percentile per-packet one-way delay: 246.043 ms
Loss rate: 4.09%
Run 5: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 328.10 Mbit/s)
- Flow 1 egress (mean 323.46 Mbit/s)
- Flow 2 ingress (mean 145.68 Mbit/s)
- Flow 2 egress (mean 143.85 Mbit/s)
- Flow 3 ingress (mean 252.60 Mbit/s)
- Flow 3 egress (mean 245.15 Mbit/s)
Run 1: Statistics of PCC-Expr

Start at: 2019-07-18 21:01:14
End at: 2019-07-18 21:01:44
Local clock offset: -0.104 ms
Remote clock offset: -0.154 ms

# Below is generated by plot.py at 2019-07-19 03:06:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.94 Mbit/s
95th percentile per-packet one-way delay: 188.609 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 236.62 Mbit/s
95th percentile per-packet one-way delay: 194.222 ms
Loss rate: 2.69%
-- Flow 2:
Average throughput: 195.93 Mbit/s
95th percentile per-packet one-way delay: 173.967 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 205.60 Mbit/s
95th percentile per-packet one-way delay: 138.430 ms
Loss rate: 3.42%
Run 1: Report of PCC-Expr — Data Link

Throughput (Mbps)

Time (s)

0  5  10  15  20  25  30

Flow 1 ingress (mean 242.20 Mbps)  Flow 1 egress (mean 236.62 Mbps)
Flow 2 ingress (mean 197.48 Mbps)  Flow 2 egress (mean 195.93 Mbps)
Flow 3 ingress (mean 210.42 Mbps)  Flow 3 egress (mean 205.60 Mbps)

Packet delay (ms)

Time (s)

0  5  10  15  20  25  30

Flow 1 (95th percentile 194.22 ms)  Flow 2 (95th percentile 173.97 ms)  Flow 3 (95th percentile 138.43 ms)
Run 2: Statistics of PCC-Expr

Local clock offset: -0.04 ms
Remote clock offset: -0.197 ms

# Below is generated by plot.py at 2019-07-19 03:06:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.54 Mbit/s
95th percentile per-packet one-way delay: 175.905 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 253.20 Mbit/s
95th percentile per-packet one-way delay: 178.874 ms
Loss rate: 4.97%
-- Flow 2:
Average throughput: 238.95 Mbit/s
95th percentile per-packet one-way delay: 141.338 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 23.62 Mbit/s
95th percentile per-packet one-way delay: 57.549 ms
Loss rate: 2.51%
Run 2: Report of PCC-Expr — Data Link

![Data Link Throughput](chart1)

- **Flow 1 Ingress** (mean 265.42 Mbit/s)
- **Flow 1 Egress** (mean 253.20 Mbit/s)
- **Flow 2 Ingress** (mean 240.13 Mbit/s)
- **Flow 2 Egress** (mean 238.95 Mbit/s)
- **Flow 3 Ingress** (mean 23.95 Mbit/s)
- **Flow 3 Egress** (mean 23.62 Mbit/s)

![Data Link Delay](chart2)

- **Flow 1 (95th percentile 178.87 ms)**
- **Flow 2 (95th percentile 141.34 ms)**
- **Flow 3 (95th percentile 57.55 ms)**
Run 3: Statistics of PCC-Expr

Local clock offset: 0.013 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-07-19 03:06:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.94 Mbit/s
95th percentile per-packet one-way delay: 145.006 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 271.14 Mbit/s
95th percentile per-packet one-way delay: 150.605 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 187.05 Mbit/s
95th percentile per-packet one-way delay: 67.260 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 58.230 ms
Loss rate: 1.58%
Run 3: Report of PCC-Expr — Data Link
Run 4: Statistics of PCC-Expr

Start at: 2019-07-18 23:03:35
End at: 2019-07-18 23:04:05
Local clock offset: -0.014 ms
Remote clock offset: -0.183 ms

# Below is generated by plot.py at 2019-07-19 03:13:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 413.39 Mbit/s
95th percentile per-packet one-way delay: 159.996 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 231.15 Mbit/s
95th percentile per-packet one-way delay: 162.994 ms
Loss rate: 2.52%
-- Flow 2:
Average throughput: 191.40 Mbit/s
95th percentile per-packet one-way delay: 92.843 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 168.58 Mbit/s
95th percentile per-packet one-way delay: 162.967 ms
Loss rate: 2.30%
Run 4: Report of PCC-Expr — Data Link
Start at: 2019-07-18 23:44:46
End at: 2019-07-18 23:45:16
Local clock offset: -0.192 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-07-19 03:18:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 458.02 Mbit/s
  95th percentile per-packet one-way delay: 203.666 ms
  Loss rate: 8.51%
-- Flow 1:
  Average throughput: 254.74 Mbit/s
  95th percentile per-packet one-way delay: 195.373 ms
  Loss rate: 3.87%
-- Flow 2:
  Average throughput: 187.67 Mbit/s
  95th percentile per-packet one-way delay: 210.552 ms
  Loss rate: 15.67%
-- Flow 3:
  Average throughput: 240.45 Mbit/s
  95th percentile per-packet one-way delay: 203.777 ms
  Loss rate: 10.46%
Run 5: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Local clock offset: 0.083 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-07-19 03:18:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 77.17 Mbit/s
  95th percentile per-packet one-way delay: 57.593 ms
  Loss rate: 1.32%
-- Flow 1:
  Average throughput: 45.14 Mbit/s
  95th percentile per-packet one-way delay: 57.242 ms
  Loss rate: 0.88%
-- Flow 2:
  Average throughput: 41.90 Mbit/s
  95th percentile per-packet one-way delay: 57.242 ms
  Loss rate: 1.88%
-- Flow 3:
  Average throughput: 8.07 Mbit/s
  95th percentile per-packet one-way delay: 61.072 ms
  Loss rate: 2.62%
Run 1: Report of QUIC Cubic — Data Link

![Data Link Throughput and Latency Graphs](image-url)
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-18 22:03:00
End at: 2019-07-18 22:03:31
Local clock offset: 0.084 ms
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2019-07-19 03:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.68 Mbit/s
95th percentile per-packet one-way delay: 60.166 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 58.58 Mbit/s
95th percentile per-packet one-way delay: 60.134 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 57.209 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 19.67 Mbit/s
95th percentile per-packet one-way delay: 60.327 ms
Loss rate: 0.53%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Local clock offset: 0.275 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2019-07-19 03:18:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.13 Mbit/s
  95th percentile per-packet one-way delay: 61.004 ms
  Loss rate: 0.63%
-- Flow 1:
  Average throughput: 59.64 Mbit/s
  95th percentile per-packet one-way delay: 61.034 ms
  Loss rate: 0.50%
-- Flow 2:
  Average throughput: 43.06 Mbit/s
  95th percentile per-packet one-way delay: 57.707 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 17.99 Mbit/s
  95th percentile per-packet one-way delay: 60.645 ms
  Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-18 23:24:08
Local clock offset: 0.21 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-07-19 03:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.17 Mbit/s
95th percentile per-packet one-way delay: 60.556 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 47.56 Mbit/s
95th percentile per-packet one-way delay: 60.483 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 57.259 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 26.69 Mbit/s
95th percentile per-packet one-way delay: 60.696 ms
Loss rate: 0.38%
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-19 00:05:05
End at: 2019-07-19 00:05:35
Local clock offset: 0.173 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.77 Mbit/s
95th percentile per-packet one-way delay: 57.828 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 43.99 Mbit/s
95th percentile per-packet one-way delay: 57.864 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 40.82 Mbit/s
95th percentile per-packet one-way delay: 57.801 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 50.79 Mbit/s
95th percentile per-packet one-way delay: 57.219 ms
Loss rate: 2.78%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-07-18 21:17:46
End at: 2019-07-18 21:18:16
Local clock offset: -0.608 ms
Remote clock offset: -0.694 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 57.662 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.681 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.656 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.524 ms
Loss rate: 1.08%
Run 1: Report of SCReAM — Data Link

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

![Graph 2: Packet Loss vs Time (ms)]
Run 2: Statistics of SCReAM

Local clock offset: 0.118 ms
Remote clock offset: 0.088 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 57.312 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.112 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.349 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.302 ms
Loss rate: 1.09%
Run 2: Report of SCReAM — Data Link

![Throughput Graph]

![Packet Size Graph]

Flow 1 ingress (mean 0.22 Mbit/s)  Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)
Run 3: Statistics of SCReAM

Local clock offset: -0.004 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 60.460 ms
  Loss rate: 0.58%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 60.492 ms
  Loss rate: 0.38%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 57.039 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 60.504 ms
  Loss rate: 1.08%
Run 3: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.22 Mbit/s)
- Flow 1 egress (mean 0.22 Mbit/s)
- Flow 2 ingress (mean 0.22 Mbit/s)
- Flow 2 egress (mean 0.22 Mbit/s)
- Flow 3 ingress (mean 0.22 Mbit/s)
- Flow 3 egress (mean 0.22 Mbit/s)
Run 4: Statistics of SCReAM

End at: 2019-07-18 23:20:17
Local clock offset: 0.128 ms
Remote clock offset: -1.393 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 61.931 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.955 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.760 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.610 ms
Loss rate: 1.08%
Run 4: Report of SCReAM — Data Link

[Graph showing throughput and one-way packet delay]

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

[Graph showing one-way packet delay]

- Flow 1 (95th percentile 61.95 ms)
- Flow 2 (95th percentile 58.76 ms)
- Flow 3 (95th percentile 58.61 ms)
Run 5: Statistics of SCReAM

Start at: 2019-07-19 00:00:45
End at: 2019-07-19 00:01:15
Local clock offset: 0.14 ms
Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.415 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.234 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.469 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.286 ms
Loss rate: 1.09%
Run 5: Report of SCReAM — Data Link

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

Flow 1 ingress (mean 0.22 Mbps) — Flow 1 egress (mean 0.22 Mbps)
Flow 2 ingress (mean 0.22 Mbps) — Flow 2 egress (mean 0.22 Mbps)
Flow 3 ingress (mean 0.22 Mbps) — Flow 3 egress (mean 0.22 Mbps)
Run 1: Statistics of Sprout

Local clock offset: -0.151 ms
Remote clock offset: -0.201 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 14.85 Mbit/s
  95th percentile per-packet one-way delay: 57.846 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 7.64 Mbit/s
  95th percentile per-packet one-way delay: 57.709 ms
  Loss rate: 0.45%
-- Flow 2:
  Average throughput: 7.44 Mbit/s
  95th percentile per-packet one-way delay: 57.735 ms
  Loss rate: 0.67%
-- Flow 3:
  Average throughput: 6.95 Mbit/s
  95th percentile per-packet one-way delay: 58.116 ms
  Loss rate: 1.44%
Run 1: Report of Sprout — Data Link

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

- **Flow 1 ingress (mean 7.65 Mbit/s)**
- **Flow 1 egress (mean 7.64 Mbit/s)**
- **Flow 2 ingress (mean 7.47 Mbit/s)**
- **Flow 2 egress (mean 7.44 Mbit/s)**
- **Flow 3 ingress (mean 6.96 Mbit/s)**
- **Flow 3 egress (mean 6.95 Mbit/s)**

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

- **Flow 1 (95th percentile 57.71 ms)**
- **Flow 2 (95th percentile 57.73 ms)**
- **Flow 3 (95th percentile 58.12 ms)**
Run 2: Statistics of Sprout

Start at: 2019-07-18 22:01:47
End at: 2019-07-18 22:02:17
Local clock offset: -0.327 ms
Remote clock offset: -0.648 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.66 Mbit/s
95th percentile per-packet one-way delay: 58.373 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 58.443 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 7.05 Mbit/s
95th percentile per-packet one-way delay: 57.772 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 58.482 ms
Loss rate: 0.94%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Local clock offset: -0.403 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.34 Mbit/s
95th percentile per-packet one-way delay: 57.589 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 57.582 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 57.450 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 57.712 ms
Loss rate: 1.43%
Run 3: Report of Sprout — Data Link

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**Throughput:**

- **Flow 1 ingress (mean 7.78 Mb/s)**
- **Flow 1 egress (mean 7.78 Mb/s)**
- **Flow 2 ingress (mean 6.60 Mb/s)**
- **Flow 2 egress (mean 6.63 Mb/s)**
- **Flow 3 ingress (mean 6.64 Mb/s)**
- **Flow 3 egress (mean 6.63 Mb/s)**

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

- **Flow 1 (95th percentile 57.58 ms)**
- **Flow 2 (95th percentile 57.45 ms)**
- **Flow 3 (95th percentile 57.71 ms)**
Run 4: Statistics of Sprout

Local clock offset: -0.403 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.73 Mbit/s
95th percentile per-packet one-way delay: 60.768 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 60.951 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 57.302 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 60.424 ms
Loss rate: 1.46%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-07-19 00:03:51
End at: 2019-07-19 00:04:21
Local clock offset: -0.517 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2019-07-19 03:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.72 Mbit/s
95th percentile per-packet one-way delay: 57.220 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 57.229 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 57.246 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 57.048 ms
Loss rate: 1.64%
Run 5: Report of Sprout — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 7.64 Mbps)
  - Flow 1 egress (mean 7.64 Mbps)
  - Flow 2 ingress (mean 7.61 Mbps)
  - Flow 2 egress (mean 7.60 Mbps)
  - Flow 3 ingress (mean 6.25 Mbps)
  - Flow 3 egress (mean 6.22 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 57.23 ms)
  - Flow 2 (95th percentile 57.25 ms)
  - Flow 3 (95th percentile 57.05 ms)
Run 1: Statistics of TaoVA-100x

Local clock offset: -0.399 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-07-19 03:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.73 Mbit/s
95th percentile per-packet one-way delay: 66.562 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 225.49 Mbit/s
95th percentile per-packet one-way delay: 64.343 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 207.61 Mbit/s
95th percentile per-packet one-way delay: 69.910 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 204.00 Mbit/s
95th percentile per-packet one-way delay: 64.097 ms
Loss rate: 1.02%
Run 1: Report of TaoVA-100x — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 226.65 Mbps)  Flow 1 egress (mean 225.49 Mbps)
Flow 2 ingress (mean 209.41 Mbps)  Flow 2 egress (mean 207.61 Mbps)
Flow 3 ingress (mean 204.33 Mbps)  Flow 3 egress (mean 204.00 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 64.34 ms)  Flow 2 (95th percentile 69.91 ms)  Flow 3 (95th percentile 64.10 ms)
Run 2: Statistics of TaoVA-100x

End at: 2019-07-18 22:00:23
Local clock offset: -0.185 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2019-07-19 03:21:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.04 Mbit/s
95th percentile per-packet one-way delay: 63.818 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 217.25 Mbit/s
95th percentile per-packet one-way delay: 63.754 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 207.05 Mbit/s
95th percentile per-packet one-way delay: 62.115 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 194.64 Mbit/s
95th percentile per-packet one-way delay: 65.453 ms
Loss rate: 1.50%
Run 2: Report of TaoVA-100x — Data Link

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

Flow 1 ingress (mean 217.55 Mbit/s)  
Flow 1 egress (mean 217.25 Mbit/s)  
Flow 2 ingress (mean 206.76 Mbit/s)  
Flow 2 egress (mean 207.05 Mbit/s)  
Flow 3 ingress (mean 196.30 Mbit/s)  
Flow 3 egress (mean 194.64 Mbit/s)
Run 3: Statistics of TaoVA-100x

Local clock offset: 0.065 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2019-07-19 03:22:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 439.71 Mbit/s
  95th percentile per-packet one-way delay: 63.798 ms
  Loss rate: 0.53%
-- Flow 1:
  Average throughput: 231.19 Mbit/s
  95th percentile per-packet one-way delay: 60.242 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 217.13 Mbit/s
  95th percentile per-packet one-way delay: 67.472 ms
  Loss rate: 0.57%
-- Flow 3:
  Average throughput: 194.69 Mbit/s
  95th percentile per-packet one-way delay: 62.636 ms
  Loss rate: 1.20%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Local clock offset: -0.074 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-07-19 03:22:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.75 Mbit/s
95th percentile per-packet one-way delay: 64.421 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 224.40 Mbit/s
95th percentile per-packet one-way delay: 64.057 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 217.31 Mbit/s
95th percentile per-packet one-way delay: 63.838 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 206.18 Mbit/s
95th percentile per-packet one-way delay: 65.937 ms
Loss rate: 2.03%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

Start at: 2019-07-19 00:01:57
End at: 2019-07-19 00:02:27
Local clock offset: -0.501 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-07-19 03:22:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 424.70 Mbit/s
  95th percentile per-packet one-way delay: 64.094 ms
  Loss rate: 0.75%
-- Flow 1:
  Average throughput: 219.72 Mbit/s
  95th percentile per-packet one-way delay: 64.218 ms
  Loss rate: 0.75%
-- Flow 2:
  Average throughput: 218.97 Mbit/s
  95th percentile per-packet one-way delay: 60.567 ms
  Loss rate: 0.54%
-- Flow 3:
  Average throughput: 180.18 Mbit/s
  95th percentile per-packet one-way delay: 69.773 ms
  Loss rate: 1.27%
Run 5: Report of TaoVA-100x — Data Link
Run 1: Statistics of TCP Vegas

Start at: 2019-07-18 21:29:02
Local clock offset: 0.08 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-07-19 03:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.08 Mbit/s
95th percentile per-packet one-way delay: 85.287 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 404.53 Mbit/s
95th percentile per-packet one-way delay: 86.164 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 395.78 Mbit/s
95th percentile per-packet one-way delay: 85.024 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 304.40 Mbit/s
95th percentile per-packet one-way delay: 79.489 ms
Loss rate: 2.25%
Run 2: Statistics of TCP Vegas

End at: 2019-07-18 22:10:29
Local clock offset: 0.562 ms
Remote clock offset: 0.811 ms

# Below is generated by plot.py at 2019-07-19 03:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.19 Mbit/s
95th percentile per-packet one-way delay: 151.601 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 411.73 Mbit/s
95th percentile per-packet one-way delay: 114.316 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 387.16 Mbit/s
95th percentile per-packet one-way delay: 164.255 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 327.28 Mbit/s
95th percentile per-packet one-way delay: 219.568 ms
Loss rate: 1.41%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Local clock offset: -0.3 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2019-07-19 03:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 571.34 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 344.00 Mbit/s
95th percentile per-packet one-way delay: 69.549 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 230.84 Mbit/s
95th percentile per-packet one-way delay: 70.553 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 224.42 Mbit/s
95th percentile per-packet one-way delay: 66.210 ms
Loss rate: 1.27%
Run 3: Report of TCP Vegas — Data Link

![Graph showing throughput and packet loss over time for Flow 1, Flow 2, and Flow 3.]

Throughput (Mbps)

- Flow 1 ingress (mean 344.54 Mbps)
- Flow 1 egress (mean 344.00 Mbps)
- Flow 2 ingress (mean 231.86 Mbps)
- Flow 2 egress (mean 230.84 Mbps)
- Flow 3 ingress (mean 224.73 Mbps)
- Flow 3 egress (mean 224.42 Mbps)

Per-packet max delay (ms)

- Flow 1 (95th percentile 69.55 ms)
- Flow 2 (95th percentile 70.55 ms)
- Flow 3 (95th percentile 66.21 ms)
Run 4: Statistics of TCP Vegas

End at: 2019-07-18 23:31:40
Local clock offset: -0.014 ms
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2019-07-19 03:35:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 700.93 Mbit/s
95th percentile per-packet one-way delay: 80.604 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 367.77 Mbit/s
95th percentile per-packet one-way delay: 68.221 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 307.10 Mbit/s
95th percentile per-packet one-way delay: 88.214 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 391.29 Mbit/s
95th percentile per-packet one-way delay: 126.279 ms
Loss rate: 1.45%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-07-19 00:12:11
End at: 2019-07-19 00:12:41
Local clock offset: -0.309 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2019-07-19 03:35:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 609.11 Mbit/s
95th percentile per-packet one-way delay: 67.181 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 364.18 Mbit/s
95th percentile per-packet one-way delay: 63.149 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 158.17 Mbit/s
95th percentile per-packet one-way delay: 57.150 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 423.89 Mbit/s
95th percentile per-packet one-way delay: 76.684 ms
Loss rate: 1.36%
Run 5: Report of TCP Vegas — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 365.01 Mbit/s)  Flow 1 egress (mean 364.18 Mbit/s)
Flow 2 ingress (mean 159.24 Mbit/s)  Flow 2 egress (mean 158.17 Mbit/s)
Flow 3 ingress (mean 424.79 Mbit/s)  Flow 3 egress (mean 423.89 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 63.15 ms)  Flow 2 (95th percentile 57.15 ms)  Flow 3 (95th percentile 76.68 ms)
Run 1: Statistics of Verus

Start at: 2019-07-18 20:56:07
End at: 2019-07-18 20:56:37
Local clock offset: -0.249 ms
Remote clock offset: -0.276 ms

# Below is generated by plot.py at 2019-07-19 03:35:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.32 Mbit/s
95th percentile per-packet one-way delay: 133.786 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 117.86 Mbit/s
95th percentile per-packet one-way delay: 152.938 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 94.39 Mbit/s
95th percentile per-packet one-way delay: 78.361 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 119.75 Mbit/s
95th percentile per-packet one-way delay: 130.492 ms
Loss rate: 3.43%
Run 1: Report of Verus — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 117.60 Mbps)
  - Flow 1 egress (mean 117.86 Mbps)
  - Flow 2 ingress (mean 93.93 Mbps)
  - Flow 2 egress (mean 94.39 Mbps)
  - Flow 3 ingress (mean 122.59 Mbps)
  - Flow 3 egress (mean 119.75 Mbps)

- **Packet delay (ms)**
  - Flow 1 (95th percentile 152.94 ms)
  - Flow 2 (95th percentile 78.36 ms)
  - Flow 3 (95th percentile 130.49 ms)
Run 2: Statistics of Verus

End at: 2019-07-18 21:38:02
Local clock offset: 0.253 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2019-07-19 03:35:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.71 Mbit/s
95th percentile per-packet one-way delay: 158.358 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 99.87 Mbit/s
95th percentile per-packet one-way delay: 82.373 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 164.09 Mbit/s
95th percentile per-packet one-way delay: 173.002 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 57.94 Mbit/s
95th percentile per-packet one-way delay: 69.274 ms
Loss rate: 2.75%
Run 2: Report of Verus — Data Link

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

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 100.30 Mbit/s)
- Flow 1 egress (mean 99.87 Mbit/s)
- Flow 2 ingress (mean 164.78 Mbit/s)
- Flow 2 egress (mean 164.09 Mbit/s)
- Flow 3 ingress (mean 58.85 Mbit/s)
- Flow 3 egress (mean 57.94 Mbit/s)

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

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

- Flow 1 (95th percentile 82.37 ms)
- Flow 2 (95th percentile 173.00 ms)
- Flow 3 (95th percentile 69.27 ms)
Run 3: Statistics of Verus

Local clock offset: 0.299 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-07-19 03:35:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.93 Mbit/s
95th percentile per-packet one-way delay: 225.472 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 137.99 Mbit/s
95th percentile per-packet one-way delay: 245.868 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 165.57 Mbit/s
95th percentile per-packet one-way delay: 203.190 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 74.73 Mbit/s
95th percentile per-packet one-way delay: 71.565 ms
Loss rate: 2.70%
Run 3: Report of Verus — Data Link

![Throughput Graph]

*Flow 1 ingress (mean 140.65 Mbit/s) - Flow 1 egress (mean 137.99 Mbit/s)*

*Flow 2 ingress (mean 167.64 Mbit/s) - Flow 2 egress (mean 165.57 Mbit/s)*

*Flow 3 ingress (mean 75.10 Mbit/s) - Flow 3 egress (mean 74.73 Mbit/s)*

![Delay Graph]

*Flow 1 (95th percentile 245.87 ms) - Flow 2 (95th percentile 203.19 ms) - Flow 3 (95th percentile 71.56 ms)*
Run 4: Statistics of Verus

Local clock offset: 0.078 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-07-19 03:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.25 Mbit/s
95th percentile per-packet one-way delay: 177.345 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 150.11 Mbit/s
95th percentile per-packet one-way delay: 198.291 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 119.99 Mbit/s
95th percentile per-packet one-way delay: 97.935 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 124.48 Mbit/s
95th percentile per-packet one-way delay: 98.243 ms
Loss rate: 1.33%
Run 4: Report of Verus — Data Link

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

- Flow 1 ingress (mean 151.12 Mbit/s)
- Flow 1 egress (mean 150.11 Mbit/s)
- Flow 2 ingress (mean 119.99 Mbit/s)
- Flow 2 egress (mean 119.99 Mbit/s)
- Flow 3 ingress (mean 124.70 Mbit/s)
- Flow 3 egress (mean 124.48 Mbit/s)

---

Flow 1 (95th percentile 198.29 ms)  Flow 2 (95th percentile 97.94 ms)  Flow 3 (95th percentile 98.24 ms)
Run 5: Statistics of Verus

End at: 2019-07-18 23:40:03
Local clock offset: 0.474 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-07-19 03:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.34 Mbit/s
95th percentile per-packet one-way delay: 151.381 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 137.46 Mbit/s
95th percentile per-packet one-way delay: 164.730 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 121.39 Mbit/s
95th percentile per-packet one-way delay: 104.599 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 78.55 Mbit/s
95th percentile per-packet one-way delay: 72.171 ms
Loss rate: 2.55%
Run 5: Report of Verus — Data Link

![Graphs showing throughput and packet per-second (PPS) data over time for different flows.]

- Flow 1 ingress (mean 137.77 Mbit/s)
- Flow 1 egress (mean 137.46 Mbit/s)
- Flow 2 ingress (mean 122.87 Mbit/s)
- Flow 2 egress (mean 121.39 Mbit/s)
- Flow 3 ingress (mean 78.65 Mbit/s)
- Flow 3 egress (mean 78.55 Mbit/s)

![Graphs showing per-packet end-to-end delay for different flows.]

- Flow 1 (95th percentile 164.73 ms)
- Flow 2 (95th percentile 104.68 ms)
- Flow 3 (95th percentile 72.17 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-18 20:57:42
End at: 2019-07-18 20:58:12
Local clock offset: -0.332 ms
Remote clock offset: -0.706 ms

# Below is generated by plot.py at 2019-07-19 03:38:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 384.66 Mbit/s
  95th percentile per-packet one-way delay: 316.234 ms
  Loss rate: 2.43%
-- Flow 1:
  Average throughput: 218.53 Mbit/s
  95th percentile per-packet one-way delay: 283.544 ms
  Loss rate: 1.68%
-- Flow 2:
  Average throughput: 206.07 Mbit/s
  95th percentile per-packet one-way delay: 347.862 ms
  Loss rate: 3.83%
-- Flow 3:
  Average throughput: 89.77 Mbit/s
  95th percentile per-packet one-way delay: 62.578 ms
  Loss rate: 1.34%
Run 1: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 221.38 Mbps)  Flow 1 egress (mean 218.53 Mbps)
Flow 2 ingress (mean 213.02 Mbps)  Flow 2 egress (mean 206.07 Mbps)
Flow 3 ingress (mean 89.91 Mbps)  Flow 3 egress (mean 89.77 Mbps)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 283.54 ms)  Flow 2 (95th percentile 347.86 ms)  Flow 3 (95th percentile 62.58 ms)
Run 2: Statistics of PCC-Vivace

Local clock offset: -0.07 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-07-19 03:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.55 Mbit/s
95th percentile per-packet one-way delay: 63.607 ms
Loss rate: 0.86%  
-- Flow 1:
Average throughput: 225.41 Mbit/s
95th percentile per-packet one-way delay: 64.385 ms
Loss rate: 0.63%  
-- Flow 2:
Average throughput: 224.81 Mbit/s
95th percentile per-packet one-way delay: 62.526 ms
Loss rate: 1.07%  
-- Flow 3:
Average throughput: 91.48 Mbit/s
95th percentile per-packet one-way delay: 57.736 ms
Loss rate: 1.58%
Run 3: Statistics of PCC-Vivace

Local clock offset: 0.023 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-07-19 03:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.72 Mbit/s
95th percentile per-packet one-way delay: 70.068 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 200.39 Mbit/s
95th percentile per-packet one-way delay: 86.223 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 219.42 Mbit/s
95th percentile per-packet one-way delay: 64.085 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 45.11 Mbit/s
95th percentile per-packet one-way delay: 57.167 ms
Loss rate: 2.78%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-18 23:00:09
End at: 2019-07-18 23:00:39
Local clock offset: -0.07 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-07-19 03:38:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 350.61 Mbit/s
95th percentile per-packet one-way delay: 63.803 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 246.51 Mbit/s
95th percentile per-packet one-way delay: 66.338 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 126.64 Mbit/s
95th percentile per-packet one-way delay: 57.532 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 61.24 Mbit/s
95th percentile per-packet one-way delay: 57.471 ms
Loss rate: 2.85%
Run 4: Report of PCC-Vivace — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 246.35 Mbps)
  - Flow 1 egress (mean 246.51 Mbps)
  - Flow 2 ingress (mean 127.17 Mbps)
  - Flow 2 egress (mean 126.64 Mbps)
  - Flow 3 ingress (mean 62.30 Mbps)
  - Flow 3 egress (mean 61.24 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 66.34 ms)
  - Flow 2 (95th percentile 57.53 ms)
  - Flow 3 (95th percentile 57.47 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-18 23:41:10
End at: 2019-07-18 23:41:40
Local clock offset: 0.073 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.69 Mbit/s
95th percentile per-packet one-way delay: 73.033 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 298.26 Mbit/s
95th percentile per-packet one-way delay: 63.031 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 235.61 Mbit/s
95th percentile per-packet one-way delay: 95.616 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 162.16 Mbit/s
95th percentile per-packet one-way delay: 64.482 ms
Loss rate: 1.87%
Run 5: Report of PCC-Vivace — Data Link

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

Legend:
- Flow 1 ingress (mean 298.73 Mbps)
- Flow 1 egress (mean 298.26 Mbps)
- Flow 2 ingress (mean 236.19 Mbps)
- Flow 2 egress (mean 235.61 Mbps)
- Flow 3 ingress (mean 163.33 Mbps)
- Flow 3 egress (mean 162.16 Mbps)
Run 1: Statistics of WebRTC media

Start at: 2019-07-18 21:05:12
End at: 2019-07-18 21:05:42
Local clock offset: 0.301 ms
Remote clock offset: 0.064 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 61.128 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 57.931 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.406 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.180 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Local clock offset: -0.183 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 60.183 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 60.223 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 57.188 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 57.048 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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**Throughput (Mbps)**

- Flow 1 ingress (mean 0.04 Mbit/s)
- Flow 1 egress (mean 0.05 Mbit/s)
- Flow 2 ingress (mean 0.04 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)

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

- Flow 1 (95th percentile 60.22 ms)
- Flow 2 (95th percentile 57.19 ms)
- Flow 3 (95th percentile 57.05 ms)
Run 3: Statistics of WebRTC media

Local clock offset: 0.033 ms
Remote clock offset: 0.07 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 57.354 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.379 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.106 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.340 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

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

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

![Graph showing packet round-trip time over time for three different flows.]

- Flow 1 (95th percentile 57.38 ms)
- Flow 2 (95th percentile 57.11 ms)
- Flow 3 (95th percentile 57.34 ms)
Run 4: Statistics of WebRTC media

Start at: 2019-07-18 23:07:15
End at: 2019-07-18 23:07:45
Local clock offset: -0.353 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 60.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.124 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.313 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.178 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

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)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 57.12 ms)
Flow 2 (95th percentile 60.31 ms)
Flow 3 (95th percentile 57.18 ms)
Run 5: Statistics of WebRTC media

End at: 2019-07-18 23:49:02
Local clock offset: 0.357 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-07-19 03:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 60.658 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.508 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.480 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.720 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Throughput graph]

- 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)

![Per packet one way delay graph]

- Flow 1 (95th percentile 57.51 ms)
- Flow 2 (95th percentile 57.48 ms)
- Flow 3 (95th percentile 60.72 ms)