Pantheon Report

Data path: GCE London Ethernet (local) → GCE Tokyo Ethernet (remote).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (fq), and other schemes with the default Linux qdisc (pfifo_fast).

Git summary:
branch: master @ eb420b5be9bafcccd22cf68b99ff5a2000462fc59
third_party/calibrated_koho @ 3cb73c0d1c0322cdefae46ea37a522e05327db50
  M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf16c797253db7e8c04076272ba44
third_party/genericCC @ 9249efa3238475c4d8c6a1443d28df70b66c4a2
third_party/indigo @ a9b2060d9e4da2e8987e893e3eca2a6c7cd0ab9
  third_party/indigo-1-layer-128-unit @ 3ae9e4e4230db7484501f8208b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0e3dbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41113ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c538d89
third_party/koho_cc @ f0f2e693303ae82ea08e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e28262f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861a659ba9013db26744ccfcf993
third_party/pcc @ 1af0958fa0d66d18b23c091a55f8c872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/proto-quic @ 77961f6a82733a86b42f1bc8143ebc978f3f2f42
third_party/scream @ c3370fdd7bd17265a79aeb34e016ad23f5965885
third_party/sourdough @ f1a14bffe74973473f61b1aeeb30b267cde681
third_party/sprout @ 6f22e6e608d910669af023df375ee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562639f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webRTC @ f271183af822ee5d0031620f4bebf38aecd5581
test from GCE London Ethernet to GCE Tokyo Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

![Graph]
<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>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
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<tr>
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<td>95.21</td>
<td>94.22</td>
<td>85.88</td>
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<td>85.48</td>
<td>75.79</td>
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<td>51.16</td>
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<td>183.58</td>
<td>109.72</td>
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<td>253.19</td>
<td>206.65</td>
<td>113.73</td>
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<td>Vivace-LTE</td>
<td>10</td>
<td>257.43</td>
<td>168.11</td>
<td>138.37</td>
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</table>
Run 1: Statistics of TCP BBR

Start at: 2018-04-11 06:29:10
End at: 2018-04-11 06:29:40

# Below is generated by plot.py at 2018-04-11 11:20:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.89 Mbit/s
95th percentile per-packet one-way delay: 112.962 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 96.44 Mbit/s
95th percentile per-packet one-way delay: 112.353 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 98.21 Mbit/s
95th percentile per-packet one-way delay: 113.575 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 84.40 Mbit/s
95th percentile per-packet one-way delay: 113.048 ms
Loss rate: 0.00%
Run 1: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 96.43 Mbit/s)
- Flow 1 egress (mean 96.44 Mbit/s)
- Flow 2 ingress (mean 98.21 Mbit/s)
- Flow 2 egress (mean 98.21 Mbit/s)
- Flow 3 ingress (mean 94.38 Mbit/s)
- Flow 3 egress (mean 94.40 Mbit/s)
Run 2: Statistics of TCP BBR

Start at: 2018-04-11 06:48:16
End at: 2018-04-11 06:48:46

# Below is generated by plot.py at 2018-04-11 11:20:03
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 186.29 Mbit/s
  95th percentile per-packet one-way delay: 111.791 ms
  Loss rate: 0.00%

-- Flow 1:
  Average throughput: 96.47 Mbit/s
  95th percentile per-packet one-way delay: 111.733 ms
  Loss rate: 0.00%

-- Flow 2:
  Average throughput: 93.21 Mbit/s
  95th percentile per-packet one-way delay: 111.810 ms
  Loss rate: 0.00%

-- Flow 3:
  Average throughput: 84.35 Mbit/s
  95th percentile per-packet one-way delay: 111.884 ms
  Loss rate: 0.00%
Run 2: Report of TCP BBR — Data Link

![Graphs showing data link throughput and packet delay over time.](image)

- Throughput (Mbps):
  - Flow 1 ingress (mean 96.47 Mbps)
  - Flow 1 egress (mean 96.47 Mbps)
  - Flow 2 ingress (mean 93.20 Mbps)
  - Flow 2 egress (mean 93.21 Mbps)
  - Flow 3 ingress (mean 84.32 Mbps)
  - Flow 3 egress (mean 84.35 Mbps)

- Packet delay (ms):
  - Flow 1 (95th percentile 111.73 ms)
  - Flow 2 (95th percentile 111.81 ms)
  - Flow 3 (95th percentile 111.88 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-04-11 07:07:24
End at: 2018-04-11 07:07:54

# Below is generated by plot.py at 2018-04-11 11:20:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.98 Mbit/s
95th percentile per-packet one-way delay: 113.572 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 113.670 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 91.42 Mbit/s
95th percentile per-packet one-way delay: 111.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 88.71 Mbit/s
95th percentile per-packet one-way delay: 112.456 ms
Loss rate: 0.00%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2018-04-11 07:26:43
End at: 2018-04-11 07:27:13

# Below is generated by plot.py at 2018-04-11 11:20:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 191.27 Mbit/s
  95th percentile per-packet one-way delay: 117.764 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 98.26 Mbit/s
  95th percentile per-packet one-way delay: 116.503 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 96.07 Mbit/s
  95th percentile per-packet one-way delay: 118.544 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 88.05 Mbit/s
  95th percentile per-packet one-way delay: 118.599 ms
  Loss rate: 0.01%
Run 4: Report of TCP BBR — Data Link

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

- Flow 1 ingress (mean 98.26 Mbit/s)
- Flow 1 egress (mean 98.26 Mbit/s)
- Flow 2 ingress (mean 96.09 Mbit/s)
- Flow 2 egress (mean 96.07 Mbit/s)
- Flow 3 ingress (mean 98.03 Mbit/s)
- Flow 3 egress (mean 98.05 Mbit/s)

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

- Flow 1 (95th percentile 116.50 ms)
- Flow 2 (95th percentile 118.54 ms)
- Flow 3 (95th percentile 118.60 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-04-11 07:45:44  
End at: 2018-04-11 07:46:14

# Below is generated by plot.py at 2018-04-11 11:20:06  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 181.26 Mbit/s  
  95th percentile per-packet one-way delay: 114.309 ms  
  Loss rate: 0.01%  
  -- Flow 1:  
  Average throughput: 92.28 Mbit/s  
  95th percentile per-packet one-way delay: 114.178 ms  
  Loss rate: 0.00%  
  -- Flow 2:  
  Average throughput: 91.14 Mbit/s  
  95th percentile per-packet one-way delay: 114.236 ms  
  Loss rate: 0.01%  
  -- Flow 3:  
  Average throughput: 85.34 Mbit/s  
  95th percentile per-packet one-way delay: 115.048 ms  
  Loss rate: 0.02%
Run 5: Report of TCP BBR — Data Link

![Graph showing throughput and one-way delay over time](image-url-1)

![Graph showing throughput and one-way delay over time](image-url-2)
Run 6: Statistics of TCP BBR

Start at: 2018-04-11 08:04:50
End at: 2018-04-11 08:05:20

# Below is generated by plot.py at 2018-04-11 11:20:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.99 Mbit/s
95th percentile per-packet one-way delay: 115.782 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 93.19 Mbit/s
95th percentile per-packet one-way delay: 114.514 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 88.72 Mbit/s
95th percentile per-packet one-way delay: 114.913 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 86.89 Mbit/s
95th percentile per-packet one-way delay: 117.333 ms
Loss rate: 0.06%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-04-11 08:24:14
End at: 2018-04-11 08:24:44

# Below is generated by plot.py at 2018-04-11 11:20:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 187.90 Mbit/s
  95th percentile per-packet one-way delay: 113.166 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 97.61 Mbit/s
  95th percentile per-packet one-way delay: 113.133 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 93.54 Mbit/s
  95th percentile per-packet one-way delay: 113.171 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 84.37 Mbit/s
  95th percentile per-packet one-way delay: 113.216 ms
  Loss rate: 0.00%
Run 7: Report of TCP BBR — Data Link

[Graph showing throughput and packet delay over time]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 97.61 Mbps)  Flow 1 egress (mean 97.61 Mbps)
Flow 2 ingress (mean 93.53 Mbps)  Flow 2 egress (mean 93.54 Mbps)
Flow 3 ingress (mean 84.38 Mbps)  Flow 3 egress (mean 84.37 Mbps)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 113.13 ms)  Flow 2 (95th percentile 113.17 ms)  Flow 3 (95th percentile 113.22 ms)
Run 8: Statistics of TCP BBR

Start at: 2018-04-11 08:43:14
End at: 2018-04-11 08:43:44

# Below is generated by plot.py at 2018-04-11 11:20:06
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 188.61 Mbit/s
  95th percentile per-packet one-way delay: 117.367 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 94.82 Mbit/s
  95th percentile per-packet one-way delay: 114.085 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 97.49 Mbit/s
  95th percentile per-packet one-way delay: 118.205 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 87.67 Mbit/s
  95th percentile per-packet one-way delay: 120.085 ms
  Loss rate: 0.10%
Run 8: Report of TCP BBR — Data Link
Run 9: Statistics of TCP BBR

Start at: 2018-04-11 09:01:49
End at: 2018-04-11 09:02:19

# Below is generated by plot.py at 2018-04-11 11:22:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.18 Mbit/s
95th percentile per-packet one-way delay: 116.390 ms
Loss rate: 0.02%
 -- Flow 1:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 114.064 ms
Loss rate: 0.01%
 -- Flow 2:
Average throughput: 94.35 Mbit/s
95th percentile per-packet one-way delay: 118.504 ms
Loss rate: 0.02%
 -- Flow 3:
Average throughput: 82.71 Mbit/s
95th percentile per-packet one-way delay: 119.513 ms
Loss rate: 0.05%
Run 9: Report of TCP BBR — Data Link

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

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

Legend:
- Flow 1 ingress (mean 93.90 Mbit/s)
- Flow 1 egress (mean 93.89 Mbit/s)
- Flow 2 ingress (mean 94.35 Mbit/s)
- Flow 2 egress (mean 94.35 Mbit/s)
- Flow 3 ingress (mean 82.73 Mbit/s)
- Flow 3 egress (mean 82.71 Mbit/s)
Run 10: Statistics of TCP BBR

Start at: 2018-04-11 09:20:34
End at: 2018-04-11 09:21:04

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.24 Mbit/s
95th percentile per-packet one-way delay: 111.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 111.779 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 98.10 Mbit/s
95th percentile per-packet one-way delay: 112.030 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 86.35 Mbit/s
95th percentile per-packet one-way delay: 111.781 ms
Loss rate: 0.00%
Run 10: Report of TCP BBR — Data Link

![Graph showing Throughput and Per-packet One-way Delay vs Time for Flows 1, 2, and 3.]

Legend:
- Flow 1 ingress (mean 96.27 Mbit/s)
- Flow 1 egress (mean 96.27 Mbit/s)
- Flow 2 ingress (mean 98.10 Mbit/s)
- Flow 2 egress (mean 98.10 Mbit/s)
- Flow 3 ingress (mean 96.32 Mbit/s)
- Flow 3 egress (mean 96.35 Mbit/s)

![Graph showing Per-packet One-way Delay vs Time for Flows 1, 2, and 3.]

Legend:
- Flow 1 (95th percentile 111.78 ms)
- Flow 2 (95th percentile 112.03 ms)
- Flow 3 (95th percentile 111.78 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-04-11 06:22:15
End at: 2018-04-11 06:22:45

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.72 Mbit/s
95th percentile per-packet one-way delay: 122.068 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.32 Mbit/s
95th percentile per-packet one-way delay: 121.636 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 99.19 Mbit/s
95th percentile per-packet one-way delay: 122.539 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 118.414 ms
Loss rate: 0.24%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2018-04-11 06:40:58
End at: 2018-04-11 06:41:28

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 146.18 Mbit/s
  95th percentile per-packet one-way delay: 120.311 ms
  Loss rate: 0.00%
  -- Flow 1:
    Average throughput: 102.51 Mbit/s
    95th percentile per-packet one-way delay: 120.248 ms
    Loss rate: 0.00%
  -- Flow 2:
    Average throughput: 64.65 Mbit/s
    95th percentile per-packet one-way delay: 120.588 ms
    Loss rate: 0.00%
  -- Flow 3:
    Average throughput: 1.89 Mbit/s
    95th percentile per-packet one-way delay: 116.680 ms
    Loss rate: 0.19%
Run 2: Report of TCP Cubic — Data Link

- **Throughput (Mbps)**: The graph shows the throughput in Mbps over time for different flows.
- **Time (s)**: The x-axis represents time in seconds, ranging from 0 to 30.
- **Flow 1 Ingress (mean 102.51 Mbps)**
- **Flow 1 Egress (mean 102.51 Mbps)**
- **Flow 2 Ingress (mean 64.64 Mbps)**
- **Flow 2 Egress (mean 64.65 Mbps)**
- **Flow 3 Ingress (mean 1.90 Mbps)**
- **Flow 3 Egress (mean 1.89 Mbps)**

- **Per-packet one-way delay (ms)**: The graph shows the per-packet one-way delay in milliseconds for different flows.
- **Flow 1 (95th percentile 120.25 ms)**
- **Flow 2 (95th percentile 120.59 ms)**
- **Flow 3 (95th percentile 116.68 ms)**
Run 3: Statistics of TCP Cubic

Start at: 2018-04-11 07:00:12
End at: 2018-04-11 07:00:42

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 153.25 Mbit/s
  95th percentile per-packet one-way delay: 120.853 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 64.35 Mbit/s
  95th percentile per-packet one-way delay: 119.458 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 89.25 Mbit/s
  95th percentile per-packet one-way delay: 121.971 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 89.76 Mbit/s
  95th percentile per-packet one-way delay: 120.548 ms
  Loss rate: 0.00%
Run 4: Statistics of TCP Cubic

Start at: 2018-04-11 07:19:29
End at: 2018-04-11 07:19:59

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.45 Mbit/s
95th percentile per-packet one-way delay: 117.519 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.82 Mbit/s
95th percentile per-packet one-way delay: 117.809 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.48 Mbit/s
95th percentile per-packet one-way delay: 117.158 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 114.746 ms
Loss rate: 0.94%
Run 4: Report of TCP Cubic — Data Link

![Graphs showing throughput and packet delay over time for different flows.](image-url)
Run 5: Statistics of TCP Cubic

Start at: 2018-04-11 07:38:30
End at: 2018-04-11 07:39:00

# Below is generated by plot.py at 2018-04-11 11:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.60 Mbit/s
95th percentile per-packet one-way delay: 121.724 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.24 Mbit/s
95th percentile per-packet one-way delay: 121.884 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 121.136 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 116.603 ms
Loss rate: 0.54%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-04-11 07:57:29
End at: 2018-04-11 07:57:59

# Below is generated by plot.py at 2018-04-11 11:23:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 188.99 Mbit/s
  95th percentile per-packet one-way delay: 122.420 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 101.07 Mbit/s
  95th percentile per-packet one-way delay: 122.783 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 87.37 Mbit/s
  95th percentile per-packet one-way delay: 121.765 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 91.48 Mbit/s
  95th percentile per-packet one-way delay: 121.441 ms
  Loss rate: 0.00%
Run 6: Report of TCP Cubic — Data Link

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![Graph 1: Throughput (Mbps) vs. Time (s) for three flows with different ingress and egress rates.](image)

- Flow 1 ingress (mean 101.07 Mbps)
- Flow 1 egress (mean 101.07 Mbps)
- Flow 2 ingress (mean 87.37 Mbps)
- Flow 2 egress (mean 87.37 Mbps)
- Flow 3 ingress (mean 90.42 Mbps)
- Flow 3 egress (mean 91.48 Mbps)

![Graph 2: Per-packet one-way delay (ms) vs. Time (s) for three flows.](image)

- Flow 1 (95th percentile 122.78 ms)
- Flow 2 (95th percentile 121.77 ms)
- Flow 3 (95th percentile 121.44 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-04-11 08:16:51
End at: 2018-04-11 08:17:21

# Below is generated by plot.py at 2018-04-11 11:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.49 Mbit/s
95th percentile per-packet one-way delay: 121.320 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 120.697 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 100.08 Mbit/s
95th percentile per-packet one-way delay: 121.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 115.418 ms
Loss rate: 0.46%
Run 7: Report of TCP Cubic — Data Link
Run 8: Statistics of TCP Cubic

Start at: 2018-04-11 08:36:05
End at: 2018-04-11 08:36:35

# Below is generated by plot.py at 2018-04-11 11:24:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 146.41 Mbit/s
  95th percentile per-packet one-way delay: 121.705 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 102.06 Mbit/s
  95th percentile per-packet one-way delay: 121.868 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 66.01 Mbit/s
  95th percentile per-packet one-way delay: 120.740 ms
  Loss rate: 0.18%
-- Flow 3:
  Average throughput: 1.26 Mbit/s
  95th percentile per-packet one-way delay: 116.616 ms
  Loss rate: 1.60%
Run 8: Report of TCP Cubic — Data Link

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

![Graph 2: Per-packet end-to-end delay (ms)](image2)
Run 9: Statistics of TCP Cubic

Start at: 2018-04-11 08:54:48
End at: 2018-04-11 08:55:18

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.56 Mbit/s
95th percentile per-packet one-way delay: 122.489 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 98.35 Mbit/s
95th percentile per-packet one-way delay: 121.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 123.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.35 Mbit/s
95th percentile per-packet one-way delay: 123.461 ms
Loss rate: 0.54%
Run 9: Report of TCP Cubic — Data Link

[Graph of throughput and packet delay over time]

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 98.38 Mbps) — Flow 1 egress (mean 98.35 Mbps)
Flow 2 ingress (mean 92.64 Mbps) — Flow 2 egress (mean 92.65 Mbps)
Flow 3 ingress (mean 90.83 Mbps) — Flow 3 egress (mean 90.35 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 121.60 ms) — Flow 2 (95th percentile 123.11 ms) — Flow 3 (95th percentile 123.46 ms)
Run 10: Statistics of TCP Cubic

End at: 2018-04-11 09:13:53

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.16 Mbit/s
95th percentile per-packet one-way delay: 122.272 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.47 Mbit/s
95th percentile per-packet one-way delay: 122.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.59 Mbit/s
95th percentile per-packet one-way delay: 120.356 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.45 Mbit/s
95th percentile per-packet one-way delay: 122.994 ms
Loss rate: 0.00%
Run 10: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 66.50 Mbit/s)
- Flow 1 egress (mean 66.47 Mbit/s)
- Flow 2 ingress (mean 21.59 Mbit/s)
- Flow 2 egress (mean 21.59 Mbit/s)
- Flow 3 ingress (mean 74.54 Mbit/s)
- Flow 3 egress (mean 74.45 Mbit/s)
Run 1: Statistics of LEDBAT

Start at: 2018-04-11 06:27:33
End at: 2018-04-11 06:28:03

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 112.739 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 112.753 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 112.694 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 112.155 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2018-04-11 06:46:22
End at: 2018-04-11 06:46:52

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 6.41 Mbit/s
  95th percentile per-packet one-way delay: 112.940 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.62 Mbit/s
  95th percentile per-packet one-way delay: 113.050 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.71 Mbit/s
  95th percentile per-packet one-way delay: 112.914 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 112.532 ms
  Loss rate: 0.00%
Run 3: Statistics of LEDBAT

Start at: 2018-04-11 07:05:29
End at: 2018-04-11 07:05:59

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 114.121 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 114.181 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 113.941 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 110.606 ms
Loss rate: 0.00%
Run 4: Statistics of LEDBAT

Start at: 2018-04-11 07:24:54
End at: 2018-04-11 07:25:24

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.29 Mbit/s
95th percentile per-packet one-way delay: 113.203 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.67 Mbit/s
95th percentile per-packet one-way delay: 113.250 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 113.048 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 112.843 ms
Loss rate: 0.00%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

End at: 2018-04-11 07:44:23

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 9.73 Mbit/s
  95th percentile per-packet one-way delay: 114.853 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.03 Mbit/s
  95th percentile per-packet one-way delay: 114.887 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.47 Mbit/s
  95th percentile per-packet one-way delay: 114.752 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 114.572 ms
  Loss rate: 0.00%
Run 5: Report of LEDBAT — Data Link

[Graph 1: Throughput](Time(s))

[Graph 2: Packet one way delay](Time(s))
Run 6: Statistics of LEDBAT

Start at: 2018-04-11 08:02:53
End at: 2018-04-11 08:03:23

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 114.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 114.211 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 114.147 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 113.827 ms
Loss rate: 0.00%
Run 7: Statistics of LEDBAT

End at: 2018-04-11 08:22:44

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 10.71 Mbit/s
  95th percentile per-packet one-way delay: 114.058 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.14 Mbit/s
  95th percentile per-packet one-way delay: 114.031 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.49 Mbit/s
  95th percentile per-packet one-way delay: 114.213 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.82 Mbit/s
  95th percentile per-packet one-way delay: 113.722 ms
  Loss rate: 0.00%
Run 7: Report of LEDBAT — Data Link

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Graph 1:
- Throughput (Mbps)
- Time (s)
- Lines represent different flows with mean throughput:
  - Flow 1 ingress (mean 7.14 Mbps)
  - Flow 1 egress (mean 7.14 Mbps)
  - Flow 2 ingress (mean 4.49 Mbps)
  - Flow 2 egress (mean 4.49 Mbps)
  - Flow 3 ingress (mean 1.82 Mbps)
  - Flow 3 egress (mean 1.82 Mbps)

Graph 2:
- Packet one-way delay (ms)
- Time (s)
- Lines represent different flows with 95th percentile delay:
  - Flow 1 (95th percentile 114.03 ms)
  - Flow 2 (95th percentile 114.21 ms)
  - Flow 3 (95th percentile 113.72 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-04-11 08:41:22
End at: 2018-04-11 08:41:52

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.54 Mbit/s
95th percentile per-packet one-way delay: 113.482 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 113.494 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 113.480 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 113.387 ms
Loss rate: 0.00%
Run 8: Report of LEDBAT — Data Link
Run 9: Statistics of LEDBAT

Start at: 2018-04-11 09:00:06
End at: 2018-04-11 09:00:36

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 10.89 Mbit/s
  95th percentile per-packet one-way delay: 114.150 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 7.05 Mbit/s
  95th percentile per-packet one-way delay: 114.114 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.70 Mbit/s
  95th percentile per-packet one-way delay: 114.196 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.18 Mbit/s
  95th percentile per-packet one-way delay: 114.188 ms
  Loss rate: 0.00%
Run 10: Statistics of LEDBAT

Start at: 2018-04-11 09:18:37
End at: 2018-04-11 09:19:07

# Below is generated by plot.py at 2018-04-11 11:25:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 10.05 Mbit/s
  95th percentile per-packet one-way delay: 113.967 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.53 Mbit/s
  95th percentile per-packet one-way delay: 114.041 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.25 Mbit/s
  95th percentile per-packet one-way delay: 113.778 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.18 Mbit/s
  95th percentile per-packet one-way delay: 113.659 ms
  Loss rate: 0.00%
Run 10: Report of LEDBAT — Data Link

Graph showing throughput and packet delay over time for different flows.
Run 1: Statistics of PCC

Start at: 2018-04-11 06:18:30
End at: 2018-04-11 06:19:00

# Below is generated by plot.py at 2018-04-11 11:31:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.51 Mbit/s
95th percentile per-packet one-way delay: 241.614 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 480.71 Mbit/s
95th percentile per-packet one-way delay: 242.870 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 60.71 Mbit/s
95th percentile per-packet one-way delay: 235.419 ms
Loss rate: 2.14%
-- Flow 3:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 168.860 ms
Loss rate: 0.00%
Run 1: Report of PCC — Data Link

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

- Flow 1 Ingress (mean 491.72 Mbps)
- Flow 1 Egress (mean 480.71 Mbps)
- Flow 2 Ingress (mean 62.03 Mbps)
- Flow 2 Egress (mean 60.71 Mbps)
- Flow 3 Ingress (mean 4.44 Mbps)
- Flow 3 Egress (mean 4.44 Mbps)
Run 2: Statistics of PCC

Start at: 2018-04-11 06:37:14
End at: 2018-04-11 06:37:44

# Below is generated by plot.py at 2018-04-11 11:31:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 513.79 Mbit/s
  95th percentile per-packet one-way delay: 246.238 ms
  Loss rate: 2.59%
  -- Flow 1:
    Average throughput: 440.85 Mbit/s
    95th percentile per-packet one-way delay: 249.839 ms
    Loss rate: 2.97%
  -- Flow 2:
    Average throughput: 78.41 Mbit/s
    95th percentile per-packet one-way delay: 226.780 ms
    Loss rate: 0.15%
  -- Flow 3:
    Average throughput: 62.80 Mbit/s
    95th percentile per-packet one-way delay: 213.161 ms
    Loss rate: 0.53%
Run 2: Report of PCC — Data Link

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

![Graph 2: Per-packet end-to-end delay vs Time](image2)
Run 3: Statistics of PCC

Start at: 2018-04-11 06:56:27
End at: 2018-04-11 06:56:57

# Below is generated by plot.py at 2018-04-11 11:31:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 520.26 Mbit/s
  95th percentile per-packet one-way delay: 350.952 ms
  Loss rate: 2.34%
-- Flow 1:
  Average throughput: 466.41 Mbit/s
  95th percentile per-packet one-way delay: 352.391 ms
  Loss rate: 2.59%
-- Flow 2:
  Average throughput: 64.89 Mbit/s
  95th percentile per-packet one-way delay: 235.130 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 32.62 Mbit/s
  95th percentile per-packet one-way delay: 236.612 ms
  Loss rate: 0.09%
Run 3: Report of PCC — Data Link
Run 4: Statistics of PCC

Start at: 2018-04-11 07:15:32
End at: 2018-04-11 07:16:02

# Below is generated by plot.py at 2018-04-11 11:32:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.06 Mbit/s
95th percentile per-packet one-way delay: 272.146 ms
Loss rate: 3.44%
-- Flow 1:
Average throughput: 470.69 Mbit/s
95th percentile per-packet one-way delay: 277.712 ms
Loss rate: 3.48%
-- Flow 2:
Average throughput: 64.92 Mbit/s
95th percentile per-packet one-way delay: 240.658 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 58.29 Mbit/s
95th percentile per-packet one-way delay: 241.895 ms
Loss rate: 5.12%
Run 4: Report of PCC — Data Link
Run 5: Statistics of PCC

Start at: 2018-04-11 07:34:49
End at: 2018-04-11 07:35:19

# Below is generated by plot.py at 2018-04-11 11:32:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 446.47 Mbit/s
95th percentile per-packet one-way delay: 233.672 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 256.98 Mbit/s
95th percentile per-packet one-way delay: 234.581 ms
Loss rate: 2.31%
-- Flow 2:
Average throughput: 254.17 Mbit/s
95th percentile per-packet one-way delay: 232.967 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 62.49 Mbit/s
95th percentile per-packet one-way delay: 233.385 ms
Loss rate: 0.25%
Run 5: Report of PCC — Data Link

![Graph showing throughput and delay over time]

- **Throughput (Mbps/s):**
  - **Flow 1 Ingress:** mean 263.49 Mbps/s
  - **Flow 1 Egress:** mean 256.98 Mbps/s
  - **Flow 2 Ingress:** mean 258.29 Mbps/s
  - **Flow 2 Egress:** mean 254.17 Mbps/s
  - **Flow 3 Ingress:** mean 63.16 Mbps/s
  - **Flow 3 Egress:** mean 62.49 Mbps/s

- **Per-packet one-way delay (ms):**
  - **Flow 1 (95th percentile):** 234.58 ms
  - **Flow 2 (95th percentile):** 232.97 ms
  - **Flow 3 (95th percentile):** 233.38 ms
Run 6: Statistics of PCC

Start at: 2018-04-11 07:53:47
End at: 2018-04-11 07:54:17

# Below is generated by plot.py at 2018-04-11 11:32:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 494.89 Mbit/s
  95th percentile per-packet one-way delay: 298.730 ms
  Loss rate: 3.84%
-- Flow 1:
  Average throughput: 440.60 Mbit/s
  95th percentile per-packet one-way delay: 313.439 ms
  Loss rate: 4.24%
-- Flow 2:
  Average throughput: 65.56 Mbit/s
  95th percentile per-packet one-way delay: 243.568 ms
  Loss rate: 0.62%
-- Flow 3:
  Average throughput: 32.62 Mbit/s
  95th percentile per-packet one-way delay: 211.828 ms
  Loss rate: 0.01%
Run 6: Report of PCC — Data Link

![Graph showing throughput and delay over time for different flow types. The graphs illustrate the performance metrics for Flow 1, Flow 2, and Flow 3, with specific mean values for each flow's ingress and egress.]
Run 7: Statistics of PCC

Start at: 2018-04-11 08:13:05
End at: 2018-04-11 08:13:35

# Below is generated by plot.py at 2018-04-11 11:33:04
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 524.89 Mbit/s
  95th percentile per-packet one-way delay: 248.199 ms
  Loss rate: 1.80%
-- Flow 1:
  Average throughput: 483.46 Mbit/s
  95th percentile per-packet one-way delay: 248.503 ms
  Loss rate: 1.88%
-- Flow 2:
  Average throughput: 31.48 Mbit/s
  95th percentile per-packet one-way delay: 248.293 ms
  Loss rate: 1.14%
-- Flow 3:
  Average throughput: 62.55 Mbit/s
  95th percentile per-packet one-way delay: 237.093 ms
  Loss rate: 0.59%
Run 7: Report of PCC — Data Link

![Graph of throughput and per-packet round-trip delay](image-url)
Run 8: Statistics of PCC

Start at: 2018-04-11 08:32:24
End at: 2018-04-11 08:32:54

# Below is generated by plot.py at 2018-04-11 11:33:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 509.80 Mbit/s
95th percentile per-packet one-way delay: 214.428 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 464.71 Mbit/s
95th percentile per-packet one-way delay: 214.768 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 65.65 Mbit/s
95th percentile per-packet one-way delay: 207.300 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 156.833 ms
Loss rate: 0.00%
Run 8: Report of PCC — Data Link

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

Legend:
- Flow 1 Ingress (mean 469.58 Mbit/s)
- Flow 1 Egress (mean 464.71 Mbit/s)
- Flow 2 Ingress (mean 65.66 Mbit/s)
- Flow 2 Egress (mean 65.65 Mbit/s)
- Flow 3 Ingress (mean 4.44 Mbit/s)
- Flow 3 Egress (mean 4.44 Mbit/s)

![Graph showing packet loss over time.]

Legend:
- Flow 1 (95th percentile 214.77 ms)
- Flow 2 (95th percentile 207.30 ms)
- Flow 3 (95th percentile 156.83 ms)
Run 9: Statistics of PCC

Start at: 2018-04-11 08:51:08
End at: 2018-04-11 08:51:38

# Below is generated by plot.py at 2018-04-11 11:39:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 506.51 Mbit/s
95th percentile per-packet one-way delay: 241.992 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 461.98 Mbit/s
95th percentile per-packet one-way delay: 242.338 ms
Loss rate: 2.02%
-- Flow 2:
Average throughput: 65.85 Mbit/s
95th percentile per-packet one-way delay: 240.735 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 239.876 ms
Loss rate: 0.75%
Run 9: Report of PCC — Data Link
Run 10: Statistics of PCC

Start at: 2018-04-11 09:09:41
End at: 2018-04-11 09:10:11

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 502.25 Mbit/s
  95th percentile per-packet one-way delay: 247.173 ms
  Loss rate: 4.28%
-- Flow 1:
  Average throughput: 443.35 Mbit/s
  95th percentile per-packet one-way delay: 249.580 ms
  Loss rate: 4.53%
-- Flow 2:
  Average throughput: 60.82 Mbit/s
  95th percentile per-packet one-way delay: 241.881 ms
  Loss rate: 1.53%
-- Flow 3:
  Average throughput: 59.37 Mbit/s
  95th percentile per-packet one-way delay: 243.252 ms
  Loss rate: 4.12%
Run 10: Report of PCC — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2018-04-11 06:25:31
End at: 2018-04-11 06:26:01

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 113.620 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 111.648 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 54.94 Mbit/s
95th percentile per-packet one-way delay: 113.659 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 112.855 ms
Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2018-04-11 06:44:20
End at: 2018-04-11 06:44:50

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.71 Mbit/s
95th percentile per-packet one-way delay: 113.621 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.64 Mbit/s
95th percentile per-packet one-way delay: 113.654 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 111.844 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.09 Mbit/s
95th percentile per-packet one-way delay: 112.897 ms
Loss rate: 0.00%
Run 2: Report of QUIC Cubic — Data Link

![Graph showing data link performance]
Run 3: Statistics of QUIC Cubic

Start at: 2018-04-11 07:03:24  
End at: 2018-04-11 07:03:54

# Below is generated by plot.py at 2018-04-11 11:40:05  
# Datalink statistics

-- Total of 3 flows:

Average throughput: 100.45 Mbit/s
95th percentile per-packet one-way delay: 112.734 ms
Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.99 Mbit/s
95th percentile per-packet one-way delay: 111.168 ms
Loss rate: 0.00%

-- Flow 2:

Average throughput: 55.04 Mbit/s
95th percentile per-packet one-way delay: 111.825 ms
Loss rate: 0.00%

-- Flow 3:

Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 112.820 ms
Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2018-04-11 07:22:50
End at: 2018-04-11 07:23:20

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 51.52 Mbit/s
   95th percentile per-packet one-way delay: 112.916 ms
   Loss rate: 0.00%
-- Flow 1:
   Average throughput: 0.05 Mbit/s
   95th percentile per-packet one-way delay: 113.005 ms
   Loss rate: 0.00%
-- Flow 2:
   Average throughput: 50.11 Mbit/s
   95th percentile per-packet one-way delay: 112.962 ms
   Loss rate: 0.00%
-- Flow 3:
   Average throughput: 56.67 Mbit/s
   95th percentile per-packet one-way delay: 111.102 ms
   Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2018-04-11 07:41:47
End at: 2018-04-11 07:42:17

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 90.47 Mbit/s
  95th percentile per-packet one-way delay: 113.925 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 47.80 Mbit/s
  95th percentile per-packet one-way delay: 113.855 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 49.50 Mbit/s
  95th percentile per-packet one-way delay: 112.039 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 30.56 Mbit/s
  95th percentile per-packet one-way delay: 114.055 ms
  Loss rate: 0.01%
Run 5: Report of QUIC Cubic — Data Link

*Graph 1: Throughput in Mbps vs. Time (s)*

- **Flow 1 ingress (mean 47.80 Mbps)**
- **Flow 1 egress (mean 47.80 Mbps)**
- **Flow 2 ingress (mean 49.49 Mbps)**
- **Flow 2 egress (mean 49.50 Mbps)**
- **Flow 3 ingress (mean 30.55 Mbps)**
- **Flow 3 egress (mean 30.56 Mbps)**

*Graph 2: Per-packet one-way delay in ms vs. Time (s)*

- **Flow 1 (95th percentile 113.96 ms)**
- **Flow 2 (95th percentile 112.04 ms)**
- **Flow 3 (95th percentile 114.06 ms)**

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Run 6: Statistics of QUIC Cubic

Start at: 2018-04-11 08:00:49
End at: 2018-04-11 08:01:19

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 85.73 Mbit/s
  95th percentile per-packet one-way delay: 113.098 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 47.53 Mbit/s
  95th percentile per-packet one-way delay: 113.134 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 46.56 Mbit/s
  95th percentile per-packet one-way delay: 110.360 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 22.80 Mbit/s
  95th percentile per-packet one-way delay: 112.361 ms
  Loss rate: 0.00%
Run 6: Report of QUIC Cubic — Data Link
Run 7: Statistics of QUIC Cubic

Start at: 2018-04-11 08:20:11
End at: 2018-04-11 08:20:41

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 51.15 Mbit/s
  95th percentile per-packet one-way delay: 113.817 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 111.578 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 60.51 Mbit/s
  95th percentile per-packet one-way delay: 112.121 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 34.47 Mbit/s
  95th percentile per-packet one-way delay: 113.893 ms
  Loss rate: 0.00%
Run 7: Report of QUIC Cubic — Data Link

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

Legend:
- Flow 1 ingress (mean 0.05 Mbit/s)
- Flow 1 egress (mean 0.05 Mbit/s)
- Flow 2 ingress (mean 60.51 Mbit/s)
- Flow 2 egress (mean 60.51 Mbit/s)
- Flow 3 ingress (mean 34.46 Mbit/s)
- Flow 3 egress (mean 34.47 Mbit/s)
Run 8: Statistics of QUIC Cubic

Start at: 2018-04-11 08:39:22
End at: 2018-04-11 08:39:52

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.00 Mbit/s
95th percentile per-packet one-way delay: 113.168 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 110.903 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 49.64 Mbit/s
95th percentile per-packet one-way delay: 113.189 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.86 Mbit/s
95th percentile per-packet one-way delay: 113.221 ms
Loss rate: 0.00%
Run 8: Report of QUIC Cubic — Data Link

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

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Run 9: Statistics of QUIC Cubic

Start at: 2018-04-11 08:58:05
End at: 2018-04-11 08:58:36

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.71 Mbit/s
95th percentile per-packet one-way delay: 113.185 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 112.650 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 54.74 Mbit/s
95th percentile per-packet one-way delay: 113.231 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 17.34 Mbit/s
95th percentile per-packet one-way delay: 111.805 ms
Loss rate: 0.00%
Run 9: Report of QUIC Cubic — Data Link

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

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 59.85 Mb/s)
Flow 1 egress (mean 59.85 Mb/s)
Flow 2 ingress (mean 54.75 Mb/s)
Flow 2 egress (mean 54.74 Mb/s)
Flow 3 ingress (mean 17.34 Mb/s)
Flow 3 egress (mean 17.34 Mb/s)

Packet inter-arrival delay (ms)

Time (s)

Flow 1 (95th percentile 112.65 ms)
Flow 2 (95th percentile 113.23 ms)
Flow 3 (95th percentile 111.81 ms)
Run 10: Statistics of QUIC Cubic

Start at: 2018-04-11 09:16:34
End at: 2018-04-11 09:17:04

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.53 Mbit/s
  95th percentile per-packet one-way delay: 113.385 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 51.22 Mbit/s
  95th percentile per-packet one-way delay: 113.418 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 36.89 Mbit/s
  95th percentile per-packet one-way delay: 110.636 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 39.89 Mbit/s
  95th percentile per-packet one-way delay: 113.101 ms
  Loss rate: 0.00%
Run 10: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2018-04-11 06:12:15
End at: 2018-04-11 06:12:45

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 113.393 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 112.901 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 112.891 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 113.486 ms
  Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2018-04-11 06:31:03
End at: 2018-04-11 06:31:33

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 113.501 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.009 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 113.528 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.116 ms
Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

[Graph showing throughput and one-way delay over time for different flows, labeled with mean speeds in Mbps.]
Run 3: Statistics of SCReAM

Start at: 2018-04-11 06:50:11
End at: 2018-04-11 06:50:41

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 113.994 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 114.022 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 112.889 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 113.088 ms
  Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 0.20 Mb/s)
Flow 1 egress (mean 0.20 Mb/s)
Flow 2 ingress (mean 0.21 Mb/s)
Flow 2 egress (mean 0.21 Mb/s)
Flow 3 ingress (mean 0.22 Mb/s)
Flow 3 egress (mean 0.22 Mb/s)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 114.02 ms)
Flow 2 (95th percentile 112.89 ms)
Flow 3 (95th percentile 113.09 ms)
Run 4: Statistics of SCReAM

Start at: 2018-04-11 07:09:16
End at: 2018-04-11 07:09:46

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 114.034 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 114.037 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 114.043 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 112.447 ms
  Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2018-04-11 07:28:34
End at: 2018-04-11 07:29:04

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 114.124 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 112.273 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.278 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 114.232 ms
  Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link
Run 6: Statistics of SCReAM

Start at: 2018-04-11 07:47:36
End at: 2018-04-11 07:48:06

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 114.344 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 114.364 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 114.027 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 112.523 ms
  Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link
Run 7: Statistics of SCReAM

Start at: 2018-04-11 08:06:40
End at: 2018-04-11 08:07:10

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 114.161 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.818 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.475 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 114.223 ms
  Loss rate: 0.00%
Run 7: Report of SCReAM — Data Link
Run 8: Statistics of SCReAM

Start at: 2018-04-11 08:26:05
End at: 2018-04-11 08:26:35

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
--- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 114.097 ms
  Loss rate: 0.00%
--- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.878 ms
  Loss rate: 0.00%
--- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 114.155 ms
  Loss rate: 0.00%
--- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.464 ms
  Loss rate: 0.00%
Run 8: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.21 Mbps)
- Flow 1 egress (mean 0.21 Mbps)
- Flow 2 ingress (mean 0.21 Mbps)
- Flow 2 egress (mean 0.21 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)
Run 9: Statistics of SCReAM

Start at: 2018-04-11 08:45:07
End at: 2018-04-11 08:45:37

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 113.390 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.375 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 111.454 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 113.452 ms
  Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

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

- Flow 1 ingress (mean 0.21 Mbit/s)
- Flow 1 egress (mean 0.21 Mbit/s)
- Flow 2 ingress (mean 0.22 Mbit/s)
- Flow 2 egress (mean 0.22 Mbit/s)
- Flow 3 ingress (mean 0.13 Mbit/s)
- Flow 3 egress (mean 0.13 Mbit/s)

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

- Flow 1 (95th percentile 113.38 ms)
- Flow 2 (95th percentile 111.45 ms)
- Flow 3 (95th percentile 113.45 ms)
Run 10: Statistics of SCReAM

Start at: 2018-04-11 09:03:36
End at: 2018-04-11 09:04:07

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 113.229 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 113.241 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 111.745 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 113.277 ms
  Loss rate: 0.00%
Run 10: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

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

Percent-100 one-way delay (ms)

Time (s)

Flow 1 (95th percentile 113.24 ms)  Flow 2 (95th percentile 111.75 ms)  Flow 3 (95th percentile 113.28 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-04-11 06:21:29
End at: 2018-04-11 06:21:59

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 113.717 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.758 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 111.814 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 111.990 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2018-04-11 06:40:13
End at: 2018-04-11 06:40:43

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 113.894 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 112.988 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 113.924 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 113.768 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

 através de três gráficos que mostram a performance do meio. Cada gráfico representa um fluxo (1 a 3) e mostra o tráfego de entrada (ingress) e saída (egress) de dados. O tráfego de entrada é mostrado em azul, e o tráfego de saída em verde. O tempo de retransmissão é indicado em verde-

Os gráficos mostram que os fluxos têm uma taxa de transferência de dados média de 0.06 Mbit/s para os fluxos de entrada e 0.05 Mbit/s para os fluxos de saída. A transmissão de dados ocorre de forma irregular, com picos de alta atividade durante certos momentos. O tempo de retransmissão é relativamente estável, com um valor de 112.99 ms para o fluxo 1, 113.92 ms para o fluxo 2 e 113.77 ms para o fluxo 3.
Run 3: Statistics of WebRTC media

Start at: 2018-04-11 06:59:26
End at: 2018-04-11 06:59:56

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 113.679 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.666 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.672 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 113.697 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

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

- **Flow 1 ingress (mean 0.06 Mbps)**
- **Flow 1 egress (mean 0.06 Mbps)**
- **Flow 2 ingress (mean 0.06 Mbps)**
- **Flow 2 egress (mean 0.06 Mbps)**
- **Flow 3 ingress (mean 0.05 Mbps)**
- **Flow 3 egress (mean 0.05 Mbps)**

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

- **Flow 1 (95th percentile 113.67 ms)**
- **Flow 2 (95th percentile 113.67 ms)**
- **Flow 3 (95th percentile 113.70 ms)**

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Run 4: Statistics of WebRTC media

Start at: 2018-04-11 07:18:43
End at: 2018-04-11 07:19:13

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 114.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 114.106 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 112.118 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 114.276 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2018-04-11 07:37:45
End at: 2018-04-11 07:38:15

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 114.204 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 112.354 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 114.221 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 114.248 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link
Run 6: Statistics of WebRTC media

Start at: 2018-04-11 07:56:43
End at: 2018-04-11 07:57:13

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
--- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 114.090 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.358 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 114.219 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 113.487 ms
Loss rate: 0.00%
Run 6: Report of WebRTC media — Data Link
Run 7: Statistics of WebRTC media

Start at: 2018-04-11 08:16:05
End at: 2018-04-11 08:16:35

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 114.074 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 114.123 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 114.059 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 113.223 ms
Loss rate: 0.00%
Run 7: Report of WebRTC media — Data Link

[Graph 1]

[Graph 2]
Run 8: Statistics of WebRTC media

Start at: 2018-04-11 08:35:19
End at: 2018-04-11 08:35:49

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 113.833 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.867 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.481 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 112.094 ms
Loss rate: 0.00%
Run 8: Report of WebRTC media — Data Link

![Throughput (Mbps)](image1)

- Flow 1 ingress (mean 0.06 Mbps)
- Flow 1 egress (mean 0.06 Mbps)
- Flow 2 ingress (mean 0.06 Mbps)
- Flow 2 egress (mean 0.06 Mbps)
- Flow 3 ingress (mean 0.05 Mbps)
- Flow 3 egress (mean 0.05 Mbps)

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

- Flow 1 (95th percentile 113.97 ms)
- Flow 2 (95th percentile 113.48 ms)
- Flow 3 (95th percentile 112.09 ms)
Run 9: Statistics of WebRTC media

Start at: 2018-04-11 08:54:02
End at: 2018-04-11 08:54:32

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 113.385 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.278 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.307 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 113.518 ms
Loss rate: 0.04%
Run 9: Report of WebRTC media — Data Link

---

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 0.06 Mbit/s)
- Flow 1 egress (mean 0.06 Mbit/s)
- Flow 2 ingress (mean 0.06 Mbit/s)
- Flow 2 egress (mean 0.06 Mbit/s)
- Flow 3 ingress (mean 0.05 Mbit/s)
- Flow 3 egress (mean 0.05 Mbit/s)

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

- Flow 1 (95th percentile 113.28 ms)
- Flow 2 (95th percentile 113.31 ms)
- Flow 3 (95th percentile 113.52 ms)
Run 10: Statistics of WebRTC media

Start at: 2018-04-11 09:12:37
End at: 2018-04-11 09:13:07

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 113.221 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 113.241 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 112.946 ms
Loss rate: 0.00%
Run 10: Report of WebRTC media — Data Link

![Graph showing throughput and packet loss over time for different flows, with various lines representing different flow ingress and egress rates with mean values provided.](image1)

![Graph showing packet loss over time for different flows, with markers indicating 95th percentile delay times with values provided.](image2)
Run 1: Statistics of Sprout

Start at: 2018-04-11 06:20:42
End at: 2018-04-11 06:21:12

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 113.205 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 113.781 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 113.172 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 113.150 ms
Loss rate: 0.00%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-04-11 06:39:26
End at: 2018-04-11 06:39:56

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 111.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 111.935 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 111.881 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 111.814 ms
Loss rate: 0.00%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2018-04-11 06:58:39
End at: 2018-04-11 06:59:09

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 5.38 Mbit/s
  95th percentile per-packet one-way delay: 111.107 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 3.27 Mbit/s
  95th percentile per-packet one-way delay: 110.944 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 2.18 Mbit/s
  95th percentile per-packet one-way delay: 112.864 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 111.115 ms
  Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

![Graph 1](image1.png)

**Throughput (Mbps)**

- Flow 1 ingress (mean 3.27 Mbps)
- Flow 1 egress (mean 3.27 Mbps)
- Flow 2 ingress (mean 2.18 Mbps)
- Flow 2 egress (mean 2.18 Mbps)
- Flow 3 ingress (mean 2.02 Mbps)
- Flow 3 egress (mean 2.02 Mbps)

![Graph 2](image2.png)

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

- Flow 1 (95th percentile 110.94 ms)
- Flow 2 (95th percentile 112.86 ms)
- Flow 3 (95th percentile 111.11 ms)
Run 4: Statistics of Sprout

Start at: 2018-04-11 07:17:57
End at: 2018-04-11 07:18:27

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.92 Mbit/s
  95th percentile per-packet one-way delay: 114.293 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 114.270 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.78 Mbit/s
  95th percentile per-packet one-way delay: 114.356 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.97 Mbit/s
  95th percentile per-packet one-way delay: 114.028 ms
  Loss rate: 0.00%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2018-04-11 07:36:58
End at: 2018-04-11 07:37:28

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 113.166 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 113.035 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 113.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 112.869 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link
Run 6: Statistics of Sprout

End at: 2018-04-11 07:56:27

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.63 Mbit/s
  95th percentile per-packet one-way delay: 113.637 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.68 Mbit/s
  95th percentile per-packet one-way delay: 113.664 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 2.03 Mbit/s
  95th percentile per-packet one-way delay: 113.621 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.83 Mbit/s
  95th percentile per-packet one-way delay: 113.553 ms
  Loss rate: 0.00%
Run 6: Report of Sprout — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: Round-trip one-way delay (ms)]
Run 7: Statistics of Sprout

Start at: 2018-04-11 08:15:18
End at: 2018-04-11 08:15:48

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 4.05 Mbit/s
  95th percentile per-packet one-way delay: 114.482 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 114.446 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 2.06 Mbit/s
  95th percentile per-packet one-way delay: 114.519 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.00 Mbit/s
  95th percentile per-packet one-way delay: 114.521 ms
  Loss rate: 0.00%
Run 7: Report of Sprout — Data Link
Run 8: Statistics of Sprout

Start at: 2018-04-11 08:34:32
End at: 2018-04-11 08:35:02

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.74 Mbit/s
  95th percentile per-packet one-way delay: 113.496 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.24 Mbit/s
  95th percentile per-packet one-way delay: 113.528 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.61 Mbit/s
  95th percentile per-packet one-way delay: 113.472 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.30 Mbit/s
  95th percentile per-packet one-way delay: 113.126 ms
  Loss rate: 0.00%
Run 8: Report of Sprout — Data Link

[Graph showing throughput and delay over time for different data flows.]
Run 9: Statistics of Sprout

Start at: 2018-04-11 08:53:16
End at: 2018-04-11 08:53:46

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.47 Mbit/s
  95th percentile per-packet one-way delay: 113.262 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.76 Mbit/s
  95th percentile per-packet one-way delay: 113.218 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.65 Mbit/s
  95th percentile per-packet one-way delay: 113.311 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.88 Mbit/s
  95th percentile per-packet one-way delay: 113.263 ms
  Loss rate: 0.00%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

Start at: 2018-04-11 09:11:51
End at: 2018-04-11 09:12:21

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.18 Mbit/s
  95th percentile per-packet one-way delay: 113.429 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.65 Mbit/s
  95th percentile per-packet one-way delay: 113.397 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.47 Mbit/s
  95th percentile per-packet one-way delay: 113.378 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.69 Mbit/s
  95th percentile per-packet one-way delay: 113.572 ms
  Loss rate: 0.00%
Run 1: Statistics of TaoVA-100x

Start at: 2018-04-11 06:28:20
End at: 2018-04-11 06:28:50

# Below is generated by plot.py at 2018-04-11 11:40:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 28.34 Mbit/s
  95th percentile per-packet one-way delay: 113.747 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 13.52 Mbit/s
  95th percentile per-packet one-way delay: 113.683 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 15.86 Mbit/s
  95th percentile per-packet one-way delay: 113.394 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 12.83 Mbit/s
  95th percentile per-packet one-way delay: 113.857 ms
  Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link

![Diagram of network traffic and latency for different flows.

- Flow 1 ingress (mean 13.52 Mbit/s)
- Flow 1 egress (mean 13.52 Mbit/s)
- Flow 2 ingress (mean 15.86 Mbit/s)
- Flow 2 egress (mean 15.86 Mbit/s)
- Flow 3 ingress (mean 12.83 Mbit/s)
- Flow 3 egress (mean 12.83 Mbit/s)

![Diagram showing 95th percentile delay for different flows.

- Flow 1 (95th percentile 113.68 ms)
- Flow 2 (95th percentile 113.39 ms)
- Flow 3 (95th percentile 113.86 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-04-11 06:47:09
End at: 2018-04-11 06:47:39

# Below is generated by plot.py at 2018-04-11 11:40:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.06 Mbit/s
95th percentile per-packet one-way delay: 116.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 157.13 Mbit/s
95th percentile per-packet one-way delay: 117.314 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 112.795 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 76.06 Mbit/s
95th percentile per-packet one-way delay: 113.928 ms
Loss rate: 0.00%
Run 2: Report of TaoVA-100x — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress: mean 157.13 Mbps
- Flow 1 egress: mean 157.13 Mbps
- Flow 2 ingress: mean 8.66 Mbps
- Flow 2 egress: mean 8.66 Mbps
- Flow 3 ingress: mean 76.06 Mbps
- Flow 3 egress: mean 76.06 Mbps

**Packet Delay (ms):**
- Flow 1 (95th percentile): 117.31 ms
- Flow 2 (95th percentile): 112.80 ms
- Flow 3 (95th percentile): 113.93 ms
Run 3: Statistics of TaoVA-100x

Start at: 2018-04-11 07:06:16
End at: 2018-04-11 07:06:46

# Below is generated by plot.py at 2018-04-11 11:41:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 193.35 Mbit/s
95th percentile per-packet one-way delay: 117.908 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.87 Mbit/s
95th percentile per-packet one-way delay: 116.811 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.16 Mbit/s
95th percentile per-packet one-way delay: 113.469 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 143.41 Mbit/s
95th percentile per-packet one-way delay: 120.974 ms
Loss rate: 0.00%
Run 3: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 132.86 Mbit/s)
- Flow 1 egress (mean 132.87 Mbit/s)
- Flow 2 ingress (mean 20.16 Mbit/s)
- Flow 2 egress (mean 20.16 Mbit/s)
- Flow 3 ingress (mean 143.40 Mbit/s)
- Flow 3 egress (mean 143.41 Mbit/s)

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

- Flow 1 (95th percentile 116.81 ms)
- Flow 2 (95th percentile 113.47 ms)
- Flow 3 (95th percentile 120.97 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2018-04-11 07:25:41  
End at: 2018-04-11 07:26:11

# Below is generated by plot.py at 2018-04-11 11:41:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 137.18 Mbit/s  
95th percentile per-packet one-way delay: 117.848 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 84.20 Mbit/s  
95th percentile per-packet one-way delay: 114.157 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 13.38 Mbit/s  
95th percentile per-packet one-way delay: 114.064 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 148.78 Mbit/s  
95th percentile per-packet one-way delay: 120.285 ms  
Loss rate: 0.00%
Run 4: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 84.20 Mbps)
- Flow 1 egress (mean 84.20 Mbps)
- Flow 2 ingress (mean 13.38 Mbps)
- Flow 2 egress (mean 13.38 Mbps)
- Flow 3 ingress (mean 148.74 Mbps)
- Flow 3 egress (mean 148.78 Mbps)

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

- Flow 1 (95th percentile 114.16 ms)
- Flow 2 (95th percentile 114.06 ms)
- Flow 3 (95th percentile 120.28 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-04-11 07:44:40
End at: 2018-04-11 07:45:10

# Below is generated by plot.py at 2018-04-11 11:41:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.77 Mbit/s
95th percentile per-packet one-way delay: 115.583 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 111.13 Mbit/s
95th percentile per-packet one-way delay: 116.254 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 68.46 Mbit/s
95th percentile per-packet one-way delay: 114.105 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 15.31 Mbit/s
95th percentile per-packet one-way delay: 112.247 ms
Loss rate: 0.01%
Run 5: Report of TaoVA-100x — Data Link
Run 6: Statistics of TaoVA-100x

Start at: 2018-04-11 08:03:41
End at: 2018-04-11 08:04:11

# Below is generated by plot.py at 2018-04-11 11:42:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 221.67 Mbit/s
  95th percentile per-packet one-way delay: 115.027 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 153.44 Mbit/s
  95th percentile per-packet one-way delay: 115.142 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 20.21 Mbit/s
  95th percentile per-packet one-way delay: 114.177 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 168.44 Mbit/s
  95th percentile per-packet one-way delay: 114.651 ms
  Loss rate: 0.00%
Run 7: Statistics of TaoVA-100x

Start at: 2018-04-11 08:23:02
End at: 2018-04-11 08:23:32

# Below is generated by plot.py at 2018-04-11 11:43:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.11 Mbit/s
95th percentile per-packet one-way delay: 117.174 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 160.49 Mbit/s
95th percentile per-packet one-way delay: 115.795 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 79.50 Mbit/s
95th percentile per-packet one-way delay: 121.657 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.89 Mbit/s
95th percentile per-packet one-way delay: 113.015 ms
Loss rate: 0.00%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

Start at: 2018-04-11 08:42:09
End at: 2018-04-11 08:42:39

# Below is generated by plot.py at 2018-04-11 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.22 Mbit/s
95th percentile per-packet one-way delay: 117.967 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 92.70 Mbit/s
95th percentile per-packet one-way delay: 119.439 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 100.47 Mbit/s
95th percentile per-packet one-way delay: 116.084 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.60 Mbit/s
95th percentile per-packet one-way delay: 111.912 ms
Loss rate: 0.00%
Run 8: Report of TaoVA-100x — Data Link
Run 9: Statistics of TaoVA-100x

Start at: 2018-04-11 09:00:53
End at: 2018-04-11 09:01:23

# Below is generated by plot.py at 2018-04-11 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 116.306 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.97 Mbit/s
95th percentile per-packet one-way delay: 113.169 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 151.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 171.84 Mbit/s
95th percentile per-packet one-way delay: 116.260 ms
Loss rate: 0.01%
Run 10: Statistics of TaoVA-100x

Start at: 2018-04-11 09:19:24
End at: 2018-04-11 09:19:54

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 214.28 Mbit/s
  95th percentile per-packet one-way delay: 116.332 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 111.68 Mbit/s
  95th percentile per-packet one-way delay: 115.860 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 52.93 Mbit/s
  95th percentile per-packet one-way delay: 128.108 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 203.29 Mbit/s
  95th percentile per-packet one-way delay: 112.267 ms
  Loss rate: 0.00%
Run 10: Report of TaoVA-100x — Data Link

[Graph showing throughput (Mbps) over time for different flows with varied ingress and egress rates.]

[Graph showing per-packet one-way delay (ms) over time for different flows with varied delay times.]
Run 1: Statistics of TCP Vegas

Start at: 2018-04-11 06:30:08
End at: 2018-04-11 06:30:38

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 124.67 Mbit/s
  95th percentile per-packet one-way delay: 122.739 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 30.10 Mbit/s
  95th percentile per-packet one-way delay: 117.033 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 97.88 Mbit/s
  95th percentile per-packet one-way delay: 123.064 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 89.05 Mbit/s
  95th percentile per-packet one-way delay: 124.392 ms
  Loss rate: 0.00%
Run 1: Report of TCP Vegas — Data Link
Run 2: Statistics of TCP Vegas

Start at: 2018-04-11 06:49:14
End at: 2018-04-11 06:49:44

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
 -- Total of 3 flows:
   Average throughput: 145.52 Mbit/s
   95th percentile per-packet one-way delay: 119.847 ms
   Loss rate: 0.00%
   -- Flow 1:
   Average throughput: 103.78 Mbit/s
   95th percentile per-packet one-way delay: 120.034 ms
   Loss rate: 0.00%
   -- Flow 2:
   Average throughput: 39.52 Mbit/s
   95th percentile per-packet one-way delay: 118.508 ms
   Loss rate: 0.00%
   -- Flow 3:
   Average throughput: 47.67 Mbit/s
   95th percentile per-packet one-way delay: 120.316 ms
   Loss rate: 0.00%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-04-11 07:08:22
End at: 2018-04-11 07:08:52

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.06 Mbit/s
95th percentile per-packet one-way delay: 121.385 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 121.618 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 20.95 Mbit/s
95th percentile per-packet one-way delay: 114.153 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 115.215 ms
Loss rate: 0.00%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2018-04-11 07:27:42
End at: 2018-04-11 07:28:12

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 79.37 Mbit/s
  95th percentile per-packet one-way delay: 115.590 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 37.34 Mbit/s
  95th percentile per-packet one-way delay: 114.360 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 49.69 Mbit/s
  95th percentile per-packet one-way delay: 116.477 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 27.40 Mbit/s
  95th percentile per-packet one-way delay: 118.555 ms
  Loss rate: 0.00%
Run 4: Report of TCP Vegas — Data Link

![Graph 1: Throughput](image1)

![Graph 2: One-Way Delay](image2)
Run 5: Statistics of TCP Vegas

Start at: 2018-04-11 07:46:42
End at: 2018-04-11 07:47:12

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.90 Mbit/s
95th percentile per-packet one-way delay: 120.876 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 121.022 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.15 Mbit/s
95th percentile per-packet one-way delay: 118.031 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.20 Mbit/s
95th percentile per-packet one-way delay: 128.345 ms
Loss rate: 0.00%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-04-11 08:05:48
End at: 2018-04-11 08:06:18

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.72 Mbit/s
95th percentile per-packet one-way delay: 115.774 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.09 Mbit/s
95th percentile per-packet one-way delay: 114.734 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.00 Mbit/s
95th percentile per-packet one-way delay: 117.580 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.16 Mbit/s
95th percentile per-packet one-way delay: 126.643 ms
Loss rate: 0.00%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-04-11 08:25:13
End at: 2018-04-11 08:25:43

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 70.05 Mbit/s
  95th percentile per-packet one-way delay: 113.395 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 35.43 Mbit/s
  95th percentile per-packet one-way delay: 112.128 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 36.71 Mbit/s
  95th percentile per-packet one-way delay: 112.944 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 30.68 Mbit/s
  95th percentile per-packet one-way delay: 122.765 ms
  Loss rate: 0.00%
Run 7: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 35.42 Mbit/s)
- Flow 2 ingress (mean 36.71 Mbit/s)
- Flow 3 ingress (mean 30.68 Mbit/s)
- Flow 1 egress (mean 35.43 Mbit/s)
- Flow 2 egress (mean 36.71 Mbit/s)
- Flow 3 egress (mean 30.68 Mbit/s)
Run 8: Statistics of TCP Vegas

Start at: 2018-04-11 08:44:12
End at: 2018-04-11 08:44:42

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 127.68 Mbit/s
  95th percentile per-packet one-way delay: 120.317 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 83.45 Mbit/s
  95th percentile per-packet one-way delay: 120.678 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 40.61 Mbit/s
  95th percentile per-packet one-way delay: 114.250 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 51.86 Mbit/s
  95th percentile per-packet one-way delay: 120.545 ms
  Loss rate: 0.00%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-04-11 09:02:46
End at: 2018-04-11 09:03:16

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.29 Mbit/s
95th percentile per-packet one-way delay: 117.014 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.63 Mbit/s
95th percentile per-packet one-way delay: 115.258 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.34 Mbit/s
95th percentile per-packet one-way delay: 113.554 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.80 Mbit/s
95th percentile per-packet one-way delay: 124.298 ms
Loss rate: 0.00%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

Start at: 2018-04-11 09:21:31
End at: 2018-04-11 09:22:01

# Below is generated by plot.py at 2018-04-11 11:46:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.12 Mbit/s
  95th percentile per-packet one-way delay: 120.560 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 30.60 Mbit/s
  95th percentile per-packet one-way delay: 116.204 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 99.21 Mbit/s
  95th percentile per-packet one-way delay: 120.871 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.33 Mbit/s
  95th percentile per-packet one-way delay: 114.969 ms
  Loss rate: 0.45%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-04-11 06:23:09
End at: 2018-04-11 06:23:39

# Below is generated by plot.py at 2018-04-11 11:47:01
# Datalink statistics
   -- Total of 3 flows:
   Average throughput: 184.78 Mbit/s
   95th percentile per-packet one-way delay: 209.487 ms
   Loss rate: 0.54%
   -- Flow 1:
   Average throughput: 109.20 Mbit/s
   95th percentile per-packet one-way delay: 223.120 ms
   Loss rate: 0.91%
   -- Flow 2:
   Average throughput: 99.26 Mbit/s
   95th percentile per-packet one-way delay: 163.848 ms
   Loss rate: 0.00%
   -- Flow 3:
   Average throughput: 31.01 Mbit/s
   95th percentile per-packet one-way delay: 148.943 ms
   Loss rate: 0.00%
Run 1: Report of Verus — Data Link
Run 2: Statistics of Verus

Start at: 2018-04-11 06:41:54
End at: 2018-04-11 06:42:24

# Below is generated by plot.py at 2018-04-11 11:47:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.11 Mbit/s
95th percentile per-packet one-way delay: 188.065 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 58.34 Mbit/s
95th percentile per-packet one-way delay: 161.054 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 115.90 Mbit/s
95th percentile per-packet one-way delay: 182.461 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 92.08 Mbit/s
95th percentile per-packet one-way delay: 307.809 ms
Loss rate: 2.54%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-04-11 07:01:07
End at: 2018-04-11 07:01:37

# Below is generated by plot.py at 2018-04-11 11:47:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 190.96 Mbit/s
  95th percentile per-packet one-way delay: 266.891 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 117.91 Mbit/s
  95th percentile per-packet one-way delay: 199.857 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 92.05 Mbit/s
  95th percentile per-packet one-way delay: 336.335 ms
  Loss rate: 1.80%
-- Flow 3:
  Average throughput: 37.46 Mbit/s
  95th percentile per-packet one-way delay: 174.812 ms
  Loss rate: 0.48%
Run 3: Report of Verus — Data Link

- Flow 1 ingress (mean 118.30 Mbit/s)
- Flow 1 egress (mean 117.91 Mbit/s)
- Flow 2 ingress (mean 94.04 Mbit/s)
- Flow 2 egress (mean 92.05 Mbit/s)
- Flow 3 ingress (mean 37.01 Mbit/s)
- Flow 3 egress (mean 37.46 Mbit/s)

- Flow 1 (95th percentile 199.96 ms)
- Flow 2 (95th percentile 336.33 ms)
- Flow 3 (95th percentile 174.01 ms)
Run 4: Statistics of Verus

Start at: 2018-04-11 07:20:22
End at: 2018-04-11 07:20:52

# Below is generated by plot.py at 2018-04-11 11:48:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 213.45 Mbit/s
  95th percentile per-packet one-way delay: 281.011 ms
  Loss rate: 1.12%
-- Flow 1:
  Average throughput: 117.10 Mbit/s
  95th percentile per-packet one-way delay: 251.026 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 122.11 Mbit/s
  95th percentile per-packet one-way delay: 332.296 ms
  Loss rate: 2.10%
-- Flow 3:
  Average throughput: 49.56 Mbit/s
  95th percentile per-packet one-way delay: 204.781 ms
  Loss rate: 0.00%
Run 4: Report of Verus — Data Link

![Graph showing data link performance](image1)

![Graph showing packet delay](image2)
Run 5: Statistics of Verus

Start at: 2018-04-11 07:39:26
End at: 2018-04-11 07:39:56

# Below is generated by plot.py at 2018-04-11 11:48:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.07 Mbit/s
95th percentile per-packet one-way delay: 253.836 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 73.92 Mbit/s
95th percentile per-packet one-way delay: 213.608 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 150.04 Mbit/s
95th percentile per-packet one-way delay: 265.164 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 27.02 Mbit/s
95th percentile per-packet one-way delay: 160.737 ms
Loss rate: 0.00%
Run 5: Report of Verus — Data Link

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

Legend:
- Flow 1 ingress (mean 74.14 Mbit/s)
- Flow 1 egress (mean 73.92 Mbit/s)
- Flow 2 ingress (mean 153.32 Mbit/s)
- Flow 2 egress (mean 150.04 Mbit/s)
- Flow 3 ingress (mean 27.02 Mbit/s)
- Flow 3 egress (mean 27.02 Mbit/s)

Legend for per-packet one-way delay:
- Flow 1 (95th percentile 213.61 ms)
- Flow 2 (95th percentile 265.16 ms)
- Flow 3 (95th percentile 160.74 ms)
Run 6: Statistics of Verus

Start at: 2018-04-11 07:58:27
End at: 2018-04-11 07:58:57

# Below is generated by plot.py at 2018-04-11 11:48:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 206.00 Mbit/s
  95th percentile per-packet one-way delay: 212.850 ms
  Loss rate: 1.87%
-- Flow 1:
  Average throughput: 152.10 Mbit/s
  95th percentile per-packet one-way delay: 190.283 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 41.88 Mbit/s
  95th percentile per-packet one-way delay: 165.080 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 83.14 Mbit/s
  95th percentile per-packet one-way delay: 379.750 ms
  Loss rate: 12.21%
Run 6: Report of Verus — Data Link

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**Graph 1:**
- **Throughput (Mbps):**
- **Time (s):**
- **Legend:**
  - Flow 1 ingress (mean 152.24 Mbps)
  - Flow 1 egress (mean 152.10 Mbps)
  - Flow 2 ingress (mean 94.67 Mbps)
  - Flow 2 egress (mean 83.14 Mbps)
  - Flow 3 ingress (mean 41.90 Mbps)
  - Flow 3 egress (mean 41.88 Mbps)

**Graph 2:**
- **Per-packet one-way delay (ms):**
- **Time (s):**
- **Legend:**
  - Flow 1 (95th percentile 190.28 ms)
  - Flow 2 (95th percentile 165.08 ms)
  - Flow 3 (95th percentile 379.75 ms)
Run 7: Statistics of Verus

Start at: 2018-04-11 08:17:48
End at: 2018-04-11 08:18:18

# Below is generated by plot.py at 2018-04-11 11:48:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 185.64 Mbit/s
  95th percentile per-packet one-way delay: 181.131 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 85.54 Mbit/s
  95th percentile per-packet one-way delay: 166.438 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 132.33 Mbit/s
  95th percentile per-packet one-way delay: 185.017 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 37.95 Mbit/s
  95th percentile per-packet one-way delay: 172.988 ms
  Loss rate: 0.00%
Run 7: Report of Verus — Data Link

[Graph showing network throughput and packet delay over time for different flows.]
Run 8: Statistics of Verus

Start at: 2018-04-11 08:37:00
End at: 2018-04-11 08:37:30

# Below is generated by plot.py at 2018-04-11 11:50:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 209.54 Mbit/s
  95th percentile per-packet one-way delay: 233.723 ms
  Loss rate: 1.86%
-- Flow 1:
  Average throughput: 126.36 Mbit/s
  95th percentile per-packet one-way delay: 229.968 ms
  Loss rate: 0.85%
-- Flow 2:
  Average throughput: 85.28 Mbit/s
  95th percentile per-packet one-way delay: 174.392 ms
  Loss rate: 0.17%
-- Flow 3:
  Average throughput: 81.45 Mbit/s
  95th percentile per-packet one-way delay: 385.242 ms
  Loss rate: 9.53%
Run 8: Report of Verus — Data Link

![Graph showing data link throughput and delay over time. The graph includes lines for different flows, indicating their throughput and delay characteristics over time.]
Run 9: Statistics of Verus

Start at: 2018-04-11 08:55:45
End at: 2018-04-11 08:56:15

# Below is generated by plot.py at 2018-04-11 11:51:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 277.63 Mbit/s
  95th percentile per-packet one-way delay: 203.991 ms
  Loss rate: 0.96%
  -- Flow 1:
  Average throughput: 158.54 Mbit/s
  95th percentile per-packet one-way delay: 194.284 ms
  Loss rate: 0.27%
  -- Flow 2:
  Average throughput: 137.56 Mbit/s
  95th percentile per-packet one-way delay: 177.853 ms
  Loss rate: 0.20%
  -- Flow 3:
  Average throughput: 84.74 Mbit/s
  95th percentile per-packet one-way delay: 354.664 ms
  Loss rate: 7.01%
Run 9: Report of Verus — Data Link

[Graphs showing throughput and per-packet one-way delay over time for different flows with mean and 95th percentile values provided]
Run 10: Statistics of Verus

Start at: 2018-04-11 09:14:16
End at: 2018-04-11 09:14:46

# Below is generated by plot.py at 2018-04-11 11:51:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 142.15 Mbit/s
  95th percentile per-packet one-way delay: 173.134 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 77.21 Mbit/s
  95th percentile per-packet one-way delay: 198.728 ms
  Loss rate: 0.41%
-- Flow 2:
  Average throughput: 78.10 Mbit/s
  95th percentile per-packet one-way delay: 147.111 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 42.19 Mbit/s
  95th percentile per-packet one-way delay: 157.955 ms
  Loss rate: 0.06%
Run 10: Report of Verus — Data Link

![Graph of Throughput (Mbps) over time]

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

Legend:
- Flow 1 ingress (mean 77.54 Mbps) — Blue dashed line
- Flow 1 egress (mean 77.21 Mbps) — Blue solid line
- Flow 2 ingress (mean 78.10 Mbps) — Green dashed line
- Flow 2 egress (mean 78.10 Mbps) — Green solid line
- Flow 3 ingress (mean 42.21 Mbps) — Red dashed line
- Flow 3 egress (mean 42.19 Mbps) — Red solid line

Flow 1 (95th percentile 198.73 ms)
Flow 2 (95th percentile 147.11 ms)
Flow 3 (95th percentile 157.96 ms)
Run 1: Statistics of Copa

Start at: 2018-04-11 06:19:38
End at: 2018-04-11 06:20:08

# Below is generated by plot.py at 2018-04-11 11:51:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 153.50 Mbit/s
  95th percentile per-packet one-way delay: 112.584 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 82.94 Mbit/s
  95th percentile per-packet one-way delay: 111.667 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 79.87 Mbit/s
  95th percentile per-packet one-way delay: 111.745 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 52.37 Mbit/s
  95th percentile per-packet one-way delay: 112.713 ms
  Loss rate: 0.00%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2018-04-11 06:38:23
End at: 2018-04-11 06:38:53

# Below is generated by plot.py at 2018-04-11 11:51:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 149.20 Mbit/s
  95th percentile per-packet one-way delay: 113.733 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 80.09 Mbit/s
  95th percentile per-packet one-way delay: 113.592 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 71.80 Mbit/s
  95th percentile per-packet one-way delay: 113.708 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 64.18 Mbit/s
  95th percentile per-packet one-way delay: 113.895 ms
  Loss rate: 0.00%
Run 2: Report of Copa — Data Link
Run 3: Statistics of Copa

Start at: 2018-04-11 06:57:36
End at: 2018-04-11 06:58:06

# Below is generated by plot.py at 2018-04-11 11:52:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 145.19 Mbit/s
  95th percentile per-packet one-way delay: 113.561 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 73.61 Mbit/s
  95th percentile per-packet one-way delay: 113.512 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 69.22 Mbit/s
  95th percentile per-packet one-way delay: 113.645 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 76.90 Mbit/s
  95th percentile per-packet one-way delay: 113.476 ms
  Loss rate: 0.00%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2018-04-11 07:16:42
End at: 2018-04-11 07:17:12

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 332.79 Mbit/s
  95th percentile per-packet one-way delay: 218.106 ms
  Loss rate: 27.83%
-- Flow 1:
  Average throughput: 313.88 Mbit/s
  95th percentile per-packet one-way delay: 218.619 ms
  Loss rate: 29.02%
-- Flow 2:
  Average throughput: 20.95 Mbit/s
  95th percentile per-packet one-way delay: 124.788 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 15.03 Mbit/s
  95th percentile per-packet one-way delay: 130.974 ms
  Loss rate: 0.19%
Run 4: Report of Copa — Data Link

![Graph of network throughput over time](image1)

- **Flow 1 ingress** (mean 442.30 Mbit/s)
- **Flow 1 egress** (mean 313.88 Mbit/s)
- **Flow 2 ingress** (mean 239.96 Mbit/s)
- **Flow 2 egress** (mean 20.95 Mbit/s)
- **Flow 3 ingress** (mean 15.07 Mbit/s)
- **Flow 3 egress** (mean 15.03 Mbit/s)

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

- **Flow 1** (95th percentile 218.62 ms)
- **Flow 2** (95th percentile 124.79 ms)
- **Flow 3** (95th percentile 130.97 ms)
Run 5: Statistics of Copa

Start at: 2018-04-11 07:35:56
End at: 2018-04-11 07:36:26

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.40 Mbit/s
95th percentile per-packet one-way delay: 113.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.37 Mbit/s
95th percentile per-packet one-way delay: 113.925 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 71.68 Mbit/s
95th percentile per-packet one-way delay: 113.957 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.31 Mbit/s
95th percentile per-packet one-way delay: 113.605 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link

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

- Flow 1 ingress (mean 66.38 Mbit/s)
- Flow 1 egress (mean 66.37 Mbit/s)
- Flow 2 ingress (mean 71.68 Mbit/s)
- Flow 2 egress (mean 71.65 Mbit/s)
- Flow 3 ingress (mean 64.30 Mbit/s)
- Flow 3 egress (mean 64.31 Mbit/s)

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

- Flow 1 (95th percentile 111.92 ms)
- Flow 2 (95th percentile 113.96 ms)
- Flow 3 (95th percentile 113.61 ms)
Run 6: Statistics of Copa

Start at: 2018-04-11 07:54:54
End at: 2018-04-11 07:55:24

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 162.12 Mbit/s
  95th percentile per-packet one-way delay: 114.040 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 96.12 Mbit/s
  95th percentile per-packet one-way delay: 114.067 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 69.10 Mbit/s
  95th percentile per-packet one-way delay: 113.953 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 60.29 Mbit/s
  95th percentile per-packet one-way delay: 114.013 ms
  Loss rate: 0.03%
Run 6: Report of Copa — Data Link
Run 7: Statistics of Copa

Start at: 2018-04-11 08:14:14
End at: 2018-04-11 08:14:44

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 151.74 Mbit/s
  95th percentile per-packet one-way delay: 114.057 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 77.86 Mbit/s
  95th percentile per-packet one-way delay: 113.966 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 73.59 Mbit/s
  95th percentile per-packet one-way delay: 114.000 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 75.25 Mbit/s
  95th percentile per-packet one-way delay: 114.245 ms
  Loss rate: 0.00%
Run 7: Report of Copa — Data Link
Run 8: Statistics of Copa

Start at: 2018-04-11 08:33:32  
End at: 2018-04-11 08:34:02

# Below is generated by plot.py at 2018-04-11 11:58:52  
# Datalink statistics
-- Total of 3 flows:
Average throughput: 129.37 Mbit/s
95th percentile per-packet one-way delay: 113.287 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.84 Mbit/s
95th percentile per-packet one-way delay: 113.329 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.59 Mbit/s
95th percentile per-packet one-way delay: 112.788 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.77 Mbit/s
95th percentile per-packet one-way delay: 111.789 ms
Loss rate: 0.00%
Run 8: Report of Copa — Data Link

![Graph 1: Throughput vs Time]

![Graph 2: Delay vs Time]

Legend:
- Flow 1 ingress (mean 72.83 Mbit/s)
- Flow 1 egress (mean 72.84 Mbit/s)
- Flow 2 ingress (mean 52.59 Mbit/s)
- Flow 2 egress (mean 52.59 Mbit/s)
- Flow 3 ingress (mean 64.76 Mbit/s)
- Flow 3 egress (mean 64.77 Mbit/s)

Legend:
- Flow 1 (95th percentile 113.33 ms)
- Flow 2 (95th percentile 112.79 ms)
- Flow 3 (95th percentile 111.79 ms)
Run 9: Statistics of Copa

Start at: 2018-04-11 08:52:15
End at: 2018-04-11 08:52:46

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 134.15 Mbit/s
  95th percentile per-packet one-way delay: 112.730 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 70.49 Mbit/s
  95th percentile per-packet one-way delay: 112.646 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 59.38 Mbit/s
  95th percentile per-packet one-way delay: 113.078 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 72.77 Mbit/s
  95th percentile per-packet one-way delay: 113.049 ms
  Loss rate: 0.02%
Run 9: Report of Copa — Data Link

![Graph 1](image1.png)

![Graph 2](image2.png)
Run 10: Statistics of Copa

Start at: 2018-04-11 09:10:49
End at: 2018-04-11 09:11:19

# Below is generated by plot.py at 2018-04-11 11:58:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.28 Mbit/s
95th percentile per-packet one-way delay: 113.141 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 112.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.29 Mbit/s
95th percentile per-packet one-way delay: 113.266 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.44 Mbit/s
95th percentile per-packet one-way delay: 113.021 ms
Loss rate: 0.00%
Run 10: Report of Copa — Data Link
Run 1: Statistics of FillP

Start at: 2018-04-11 06:16:52
End at: 2018-04-11 06:17:22

# Below is generated by plot.py at 2018-04-11 12:11:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1169.73 Mbit/s
  95th percentile per-packet one-way delay: 362.209 ms
  Loss rate: 10.07%
-- Flow 1:
  Average throughput: 656.00 Mbit/s
  95th percentile per-packet one-way delay: 256.049 ms
  Loss rate: 7.57%
-- Flow 2:
  Average throughput: 550.11 Mbit/s
  95th percentile per-packet one-way delay: 392.908 ms
  Loss rate: 11.77%
-- Flow 3:
  Average throughput: 446.08 Mbit/s
  95th percentile per-packet one-way delay: 401.901 ms
  Loss rate: 16.09%
Run 1: Report of FillP — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 709.77 Mbps)
- Flow 1 egress (mean 656.00 Mbps)
- Flow 2 ingress (mean 533.47 Mbps)
- Flow 2 egress (mean 550.11 Mbps)
- Flow 3 ingress (mean 531.66 Mbps)
- Flow 3 egress (mean 446.08 Mbps)

![Graph 2: Delay]
Run 2: Statistics of FillP

Start at: 2018-04-11 06:35:37
End at: 2018-04-11 06:36:07

# Below is generated by plot.py at 2018-04-11 12:12:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1204.98 Mbit/s
95th percentile per-packet one-way delay: 231.152 ms
Loss rate: 9.36%
-- Flow 1:
Average throughput: 649.73 Mbit/s
95th percentile per-packet one-way delay: 214.705 ms
Loss rate: 7.05%
-- Flow 2:
Average throughput: 578.43 Mbit/s
95th percentile per-packet one-way delay: 238.315 ms
Loss rate: 9.91%
-- Flow 3:
Average throughput: 513.75 Mbit/s
95th percentile per-packet one-way delay: 246.025 ms
Loss rate: 16.14%
Run 2: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 699.07 Mbits/s) and Egress (mean 649.73 Mbits/s)
- Flow 2 Ingress (mean 642.02 Mbits/s) and Egress (mean 578.43 Mbits/s)
- Flow 3 Ingress (mean 612.73 Mbits/s) and Egress (mean 513.75 Mbits/s)
Run 3: Statistics of FillP

Start at: 2018-04-11 06:54:52
End at: 2018-04-11 06:55:22

# Below is generated by plot.py at 2018-04-11 12:12:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1133.20 Mbit/s
  95th percentile per-packet one-way delay: 236.382 ms
  Loss rate: 6.64%
-- Flow 1:
  Average throughput: 599.49 Mbit/s
  95th percentile per-packet one-way delay: 246.115 ms
  Loss rate: 6.56%
-- Flow 2:
  Average throughput: 569.85 Mbit/s
  95th percentile per-packet one-way delay: 222.412 ms
  Loss rate: 4.91%
-- Flow 3:
  Average throughput: 469.16 Mbit/s
  95th percentile per-packet one-way delay: 236.416 ms
  Loss rate: 10.92%
Run 3: Report of FillP — Data Link

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

- **Flow 1 Ingress** (mean 641.56 Mbps/s)
- **Flow 1 Egress** (mean 599.49 Mbps/s)
- **Flow 2 Ingress** (mean 599.26 Mbps/s)
- **Flow 2 Egress** (mean 569.85 Mbps/s)
- **Flow 3 Ingress** (mean 526.74 Mbps/s)
- **Flow 3 Egress** (mean 469.16 Mbps/s)

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

- **Flow 1** (95th percentile 246.12 ms)
- **Flow 2** (95th percentile 222.41 ms)
- **Flow 3** (95th percentile 236.42 ms)

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Run 4: Statistics of FillP

Start at: 2018-04-11 07:13:56
End at: 2018-04-11 07:14:26

# Below is generated by plot.py at 2018-04-11 12:13:25
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 1116.43 Mbit/s
 95th percentile per-packet one-way delay: 244.288 ms
 Loss rate: 7.88%
-- Flow 1:
 Average throughput: 601.48 Mbit/s
 95th percentile per-packet one-way delay: 233.215 ms
 Loss rate: 6.48%
-- Flow 2:
 Average throughput: 573.66 Mbit/s
 95th percentile per-packet one-way delay: 223.689 ms
 Loss rate: 6.55%
-- Flow 3:
 Average throughput: 404.85 Mbit/s
 95th percentile per-packet one-way delay: 306.924 ms
 Loss rate: 16.89%
Run 4: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 643.13 Mb/s)  
- Flow 1 Egress (mean 601.48 Mb/s)
- Flow 2 Ingress (mean 613.81 Mb/s)  
- Flow 2 Egress (mean 573.66 Mb/s)
- Flow 3 Ingress (mean 487.06 Mb/s)  
- Flow 3 Egress (mean 404.85 Mb/s)

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

- Flow 1 (95th percentile 233.22 ms)  
- Flow 2 (95th percentile 223.69 ms)  
- Flow 3 (95th percentile 306.92 ms)
Run 5: Statistics of FillP

Start at: 2018-04-11 07:33:13
End at: 2018-04-11 07:33:43

# Below is generated by plot.py at 2018-04-11 12:14:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1135.44 Mbit/s
  95th percentile per-packet one-way delay: 250.463 ms
  Loss rate: 8.28%
-- Flow 1:
  Average throughput: 625.85 Mbit/s
  95th percentile per-packet one-way delay: 222.146 ms
  Loss rate: 6.55%
-- Flow 2:
  Average throughput: 536.97 Mbit/s
  95th percentile per-packet one-way delay: 272.030 ms
  Loss rate: 9.42%
-- Flow 3:
  Average throughput: 462.36 Mbit/s
  95th percentile per-packet one-way delay: 259.162 ms
  Loss rate: 12.34%
Run 5: Report of FillP — Data Link
Run 6: Statistics of FillP

Start at: 2018-04-11 07:52:11
End at: 2018-04-11 07:52:41

# Below is generated by plot.py at 2018-04-11 12:15:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1174.20 Mbit/s
95th percentile per-packet one-way delay: 230.153 ms
Loss rate: 7.05%
-- Flow 1:
Average throughput: 637.70 Mbit/s
95th percentile per-packet one-way delay: 231.494 ms
Loss rate: 6.52%
-- Flow 2:
Average throughput: 565.26 Mbit/s
95th percentile per-packet one-way delay: 221.424 ms
Loss rate: 6.93%
-- Flow 3:
Average throughput: 484.91 Mbit/s
95th percentile per-packet one-way delay: 250.383 ms
Loss rate: 9.34%
Run 6: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 682.19 Mb/s)
- Flow 1 Egress (mean 637.70 Mb/s)
- Flow 2 Ingress (mean 607.31 Mb/s)
- Flow 2 Egress (mean 565.26 Mb/s)
- Flow 3 Ingress (mean 534.79 Mb/s)
- Flow 3 Egress (mean 484.93 Mb/s)

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

- Flow 1 (95th percentile 231.49 ms)
- Flow 2 (95th percentile 221.42 ms)
- Flow 3 (95th percentile 250.38 ms)
Run 7: Statistics of FillP

Start at: 2018-04-11 08:11:25
End at: 2018-04-11 08:11:55

# Below is generated by plot.py at 2018-04-11 12:16:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1194.76 Mbit/s
95th percentile per-packet one-way delay: 219.531 ms
Loss rate: 4.72%
-- Flow 1:
Average throughput: 643.07 Mbit/s
95th percentile per-packet one-way delay: 220.840 ms
Loss rate: 4.35%
-- Flow 2:
Average throughput: 614.83 Mbit/s
95th percentile per-packet one-way delay: 209.825 ms
Loss rate: 3.89%
-- Flow 3:
Average throughput: 431.89 Mbit/s
95th percentile per-packet one-way delay: 237.417 ms
Loss rate: 8.61%
Run 7: Report of FillP — Data Link

![Graph of Throughput (Mbps)](image1)

- Flow 1 ingress (mean 672.31 Mbps)
- Flow 1 egress (mean 643.07 Mbps)
- Flow 2 ingress (mean 639.66 Mbps)
- Flow 2 egress (mean 614.83 Mbps)
- Flow 3 ingress (mean 472.45 Mbps)
- Flow 3 egress (mean 431.89 Mbps)

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

- Flow 1 (95th percentile 220.84 ms)
- Flow 2 (95th percentile 209.82 ms)
- Flow 3 (95th percentile 237.42 ms)
Run 8: Statistics of FillP

Start at: 2018-04-11 08:30:48
End at: 2018-04-11 08:31:18

# Below is generated by plot.py at 2018-04-11 12:20:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1168.75 Mbit/s
  95th percentile per-packet one-way delay: 242.517 ms
  Loss rate: 8.94%
-- Flow 1:
  Average throughput: 632.40 Mbit/s
  95th percentile per-packet one-way delay: 239.035 ms
  Loss rate: 7.41%
-- Flow 2:
  Average throughput: 544.62 Mbit/s
  95th percentile per-packet one-way delay: 248.469 ms
  Loss rate: 11.42%
-- Flow 3:
  Average throughput: 524.89 Mbit/s
  95th percentile per-packet one-way delay: 242.054 ms
  Loss rate: 9.13%
Run 8: Report of FillP — Data Link

![Graph](image)

- Flow 1 Ingress (mean 682.97 Mbit/s)
- Flow 1 Egress (mean 632.40 Mbit/s)
- Flow 2 Ingress (mean 614.80 Mbit/s)
- Flow 2 Egress (mean 544.62 Mbit/s)
- Flow 3 Ingress (mean 577.57 Mbit/s)
- Flow 3 Egress (mean 524.89 Mbit/s)

![Graph](image)

- Flow 1 (95th percentile 239.03 ms)
- Flow 2 (95th percentile 248.47 ms)
- Flow 3 (95th percentile 242.05 ms)
Run 9: Statistics of FillP

Start at: 2018-04-11 08:49:40
End at: 2018-04-11 08:50:10

# Below is generated by plot.py at 2018-04-11 12:28:40
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 879.23 Mbit/s
  95th percentile per-packet one-way delay: 373.001 ms
  Loss rate: 9.16%
-- Flow 1:
  Average throughput: 503.79 Mbit/s
  95th percentile per-packet one-way delay: 362.158 ms
  Loss rate: 8.39%
-- Flow 2:
  Average throughput: 469.54 Mbit/s
  95th percentile per-packet one-way delay: 377.187 ms
  Loss rate: 9.23%
-- Flow 3:
  Average throughput: 195.75 Mbit/s
  95th percentile per-packet one-way delay: 423.382 ms
  Loss rate: 14.44%
Run 9: Report of FillP — Data Link

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

- Flow 1 Ingress (mean 549.95 Mbps/s)
- Flow 1 Egress (mean 503.79 Mbps/s)
- Flow 2 Ingress (mean 517.23 Mbps/s)
- Flow 2 Egress (mean 469.54 Mbps/s)
- Flow 3 Ingress (mean 225.93 Mbps/s)
- Flow 3 Egress (mean 195.75 Mbps/s)

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

- Flow 1 (95th percentile 362.16 ms)
- Flow 2 (95th percentile 377.19 ms)
- Flow 3 (95th percentile 423.38 ms)

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Run 10: Statistics of FillP

Start at: 2018-04-11 09:08:05
End at: 2018-04-11 09:08:35

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1171.29 Mbit/s
95th percentile per-packet one-way delay: 242.998 ms
Loss rate: 11.10%
-- Flow 1:
Average throughput: 652.84 Mbit/s
95th percentile per-packet one-way delay: 228.029 ms
Loss rate: 7.83%
-- Flow 2:
Average throughput: 555.49 Mbit/s
95th percentile per-packet one-way delay: 252.513 ms
Loss rate: 14.70%
-- Flow 3:
Average throughput: 448.80 Mbit/s
95th percentile per-packet one-way delay: 265.448 ms
Loss rate: 15.42%
Run 10: Report of FillIP — Data Link

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

- Flow 1 Ingress (mean 708.26 Mbits/s)
- Flow 1 Egress (mean 652.84 Mbits/s)
- Flow 2 Ingress (mean 651.28 Mbits/s)
- Flow 2 Egress (mean 555.49 Mbits/s)
- Flow 3 Ingress (mean 530.65 Mbits/s)
- Flow 3 Egress (mean 448.80 Mbits/s)

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

- Flow 1 (95th percentile 228.03 ms)
- Flow 2 (95th percentile 252.51 ms)
- Flow 3 (95th percentile 265.45 ms)
Run 1: Statistics of Indigo-1-32

Start at: 2018-04-11 06:26:24
End at: 2018-04-11 06:26:54

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 293.08 Mbit/s
  95th percentile per-packet one-way delay: 115.975 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 153.02 Mbit/s
  95th percentile per-packet one-way delay: 115.179 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 146.91 Mbit/s
  95th percentile per-packet one-way delay: 116.310 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 133.49 Mbit/s
  95th percentile per-packet one-way delay: 119.710 ms
  Loss rate: 0.00%
Run 1: Report of Indigo-1-32 — Data Link

[Graphs showing throughput and packet delay over time for different flows]
Run 2: Statistics of Indigo-1-32

Start at: 2018-04-11 06:45:11
End at: 2018-04-11 06:45:41

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 299.47 Mbit/s
  95th percentile per-packet one-way delay: 115.543 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 161.28 Mbit/s
  95th percentile per-packet one-way delay: 114.972 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 143.32 Mbit/s
  95th percentile per-packet one-way delay: 116.488 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 134.30 Mbit/s
  95th percentile per-packet one-way delay: 115.627 ms
  Loss rate: 0.01%
Run 2: Report of Indigo-1-32 — Data Link

![Graph showing network traffic and latency over time for three flows.](image-url)
Run 3: Statistics of Indigo-1-32

Start at: 2018-04-11 07:04:17
End at: 2018-04-11 07:04:47

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 311.28 Mbit/s
  95th percentile per-packet one-way delay: 136.736 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 143.92 Mbit/s
  95th percentile per-packet one-way delay: 123.253 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 179.66 Mbit/s
  95th percentile per-packet one-way delay: 135.753 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 150.13 Mbit/s
  95th percentile per-packet one-way delay: 152.969 ms
  Loss rate: 0.00%
Run 3: Report of Indigo-1-32 — Data Link

![Throughput Graph](image1)

![Packet Delay Graph](image2)
Run 4: Statistics of Indigo-1-32

Start at: 2018-04-11 07:23:40
End at: 2018-04-11 07:24:10

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 346.09 Mbit/s
  95th percentile per-packet one-way delay: 117.750 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 185.68 Mbit/s
  95th percentile per-packet one-way delay: 116.982 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 179.47 Mbit/s
  95th percentile per-packet one-way delay: 120.423 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 129.38 Mbit/s
  95th percentile per-packet one-way delay: 116.136 ms
  Loss rate: 0.00%
Run 4: Report of Indigo-1-32 — Data Link
Run 5: Statistics of Indigo-1-32

Start at: 2018-04-11 07:42:40
End at: 2018-04-11 07:43:10

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.27 Mbit/s
95th percentile per-packet one-way delay: 120.049 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 185.18 Mbit/s
95th percentile per-packet one-way delay: 118.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 169.02 Mbit/s
95th percentile per-packet one-way delay: 121.931 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 141.18 Mbit/s
95th percentile per-packet one-way delay: 124.199 ms
Loss rate: 0.02%
Run 5: Report of Indigo-1-32 — Data Link

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**Throughput vs. Time (s):**
- **Flow 1 Ingress (mean 185.19 Mbit/s)**
- **Flow 1 Egress (mean 185.18 Mbit/s)**
- **Flow 2 Ingress (mean 169.04 Mbit/s)**
- **Flow 2 Egress (mean 169.02 Mbit/s)**
- **Flow 3 Ingress (mean 141.17 Mbit/s)**
- **Flow 3 Egress (mean 141.18 Mbit/s)**

**Per-packet one-way delay (ms):**
- **Flow 1 (95th percentile 119.07 ms)**
- **Flow 2 (95th percentile 121.93 ms)**
- **Flow 3 (95th percentile 124.20 ms)**
Run 6: Statistics of Indigo-1-32

Start at: 2018-04-11 08:01:41
End at: 2018-04-11 08:02:11

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.18 Mbit/s
95th percentile per-packet one-way delay: 116.919 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 183.87 Mbit/s
95th percentile per-packet one-way delay: 116.639 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 164.11 Mbit/s
95th percentile per-packet one-way delay: 117.580 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 129.25 Mbit/s
95th percentile per-packet one-way delay: 116.463 ms
Loss rate: 0.00%
Run 6: Report of Indigo-1-32 — Data Link

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

- Flow 1 ingress (mean 183.92 Mbit/s)
- Flow 1 egress (mean 183.87 Mbit/s)
- Flow 2 ingress (mean 164.12 Mbit/s)
- Flow 2 egress (mean 164.11 Mbit/s)
- Flow 3 ingress (mean 129.26 Mbit/s)
- Flow 3 egress (mean 129.25 Mbit/s)
Run 7: Statistics of Indigo-1-32

Start at: 2018-04-11 08:21:02
End at: 2018-04-11 08:21:32

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 330.19 Mbit/s
  95th percentile per-packet one-way delay: 115.201 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 184.35 Mbit/s
  95th percentile per-packet one-way delay: 114.894 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 159.59 Mbit/s
  95th percentile per-packet one-way delay: 116.673 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 124.35 Mbit/s
  95th percentile per-packet one-way delay: 114.560 ms
  Loss rate: 0.00%
Run 7: Report of Indigo-1-32 — Data Link

![Data Link Graph]

- Flow 1 ingress (mean 184.34 Mbit/s)
- Flow 1 egress (mean 184.35 Mbit/s)
- Flow 2 ingress (mean 159.57 Mbit/s)
- Flow 2 egress (mean 159.59 Mbit/s)
- Flow 3 ingress (mean 124.35 Mbit/s)
- Flow 3 egress (mean 124.35 Mbit/s)

![Packet Delay Graph]

- Flow 1 (95th percentile 114.89 ms)
- Flow 2 (95th percentile 116.67 ms)
- Flow 3 (95th percentile 114.56 ms)
Run 8: Statistics of Indigo-1-32

Start at: 2018-04-11 08:40:14
End at: 2018-04-11 08:40:44

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 284.16 Mbit/s
  95th percentile per-packet one-way delay: 116.764 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 147.18 Mbit/s
  95th percentile per-packet one-way delay: 116.398 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 142.51 Mbit/s
  95th percentile per-packet one-way delay: 117.427 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 133.06 Mbit/s
  95th percentile per-packet one-way delay: 116.741 ms
  Loss rate: 0.00%

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Run 8: Report of Indigo-1-32 — Data Link

![Graphs showing throughput and per-packet one-way delay over time for three flows.]
Run 9: Statistics of Indigo-1-32

Start at: 2018-04-11 08:58:58
End at: 2018-04-11 08:59:28

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 286.03 Mbit/s
  95th percentile per-packet one-way delay: 116.897 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 151.07 Mbit/s
  95th percentile per-packet one-way delay: 116.468 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 143.70 Mbit/s
  95th percentile per-packet one-way delay: 116.651 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 123.37 Mbit/s
  95th percentile per-packet one-way delay: 118.948 ms
  Loss rate: 0.04%
Run 9: Report of Indigo-1-32 — Data Link

![Throughput Graph](image)

![Per-packet Delay Graph](image)

Flow 1 ingress (mean 151.08 Mbit/s)  
Flow 2 ingress (mean 143.72 Mbit/s)  
Flow 3 ingress (mean 123.39 Mbit/s)  
Flow 1 egress (mean 151.07 Mbit/s)  
Flow 2 egress (mean 143.70 Mbit/s)  
Flow 3 egress (mean 123.37 Mbit/s)
Run 10: Statistics of Indigo-1-32

Start at: 2018-04-11 09:17:25
End at: 2018-04-11 09:17:55

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.78 Mbit/s
95th percentile per-packet one-way delay: 142.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 144.35 Mbit/s
95th percentile per-packet one-way delay: 134.062 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 185.37 Mbit/s
95th percentile per-packet one-way delay: 142.402 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 166.89 Mbit/s
95th percentile per-packet one-way delay: 148.813 ms
Loss rate: 0.01%
Run 10: Report of Indigo-1-32 — Data Link
Run 1: Statistics of Vivace-latency

Start at: 2018-04-11 06:14:20
End at: 2018-04-11 06:14:50

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 425.01 Mbit/s
  95th percentile per-packet one-way delay: 157.628 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 260.94 Mbit/s
  95th percentile per-packet one-way delay: 167.623 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 180.78 Mbit/s
  95th percentile per-packet one-way delay: 116.503 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 133.37 Mbit/s
  95th percentile per-packet one-way delay: 218.772 ms
  Loss rate: 0.00%
Run 1: Report of Vivace-latency — Data Link

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

- Flow 1 ingress (mean 260.93 Mbit/s)
- Flow 1 egress (mean 260.94 Mbit/s)
- Flow 2 ingress (mean 180.78 Mbit/s)
- Flow 2 egress (mean 180.78 Mbit/s)
- Flow 3 ingress (mean 133.36 Mbit/s)
- Flow 3 egress (mean 133.37 Mbit/s)
Run 2: Statistics of Vivace-latency

Start at: 2018-04-11 06:33:07
End at: 2018-04-11 06:33:37

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.63 Mbit/s
95th percentile per-packet one-way delay: 235.521 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 242.92 Mbit/s
95th percentile per-packet one-way delay: 266.261 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 192.52 Mbit/s
95th percentile per-packet one-way delay: 154.048 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 75.16 Mbit/s
95th percentile per-packet one-way delay: 115.475 ms
Loss rate: 0.00%
Run 2: Report of Vivace-latency — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 243.13 Mbps) — Flow 1 egress (mean 242.92 Mbps)
Flow 2 ingress (mean 192.54 Mbps) — Flow 2 egress (mean 192.52 Mbps)
Flow 3 ingress (mean 75.13 Mbps) — Flow 3 egress (mean 75.16 Mbps)

Per-packet one way delay (ms)

Flow 1 (95th percentile 266.26 ms) — Flow 2 (95th percentile 154.05 ms) — Flow 3 (95th percentile 115.47 ms)
Run 3: Statistics of Vivace-latency

Start at: 2018-04-11 06:52:22
End at: 2018-04-11 06:52:52

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 376.62 Mbit/s
  95th percentile per-packet one-way delay: 128.453 ms
  Loss rate: 0.19%
-- Flow 1:
  Average throughput: 206.78 Mbit/s
  95th percentile per-packet one-way delay: 175.005 ms
  Loss rate: 0.35%
-- Flow 2:
  Average throughput: 189.20 Mbit/s
  95th percentile per-packet one-way delay: 115.442 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 134.37 Mbit/s
  95th percentile per-packet one-way delay: 173.742 ms
  Loss rate: 0.00%
Run 3: Report of Vivace-latency — Data Link

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

- Flow 1 ingress (mean 207.51 Mb/s) vs Flow 1 egress (mean 206.78 Mb/s)
- Flow 2 ingress (mean 189.19 Mb/s) vs Flow 2 egress (mean 189.20 Mb/s)
- Flow 3 ingress (mean 134.36 Mb/s) vs Flow 3 egress (mean 134.37 Mb/s)

- Per packet one-way delay across flows.
Run 4: Statistics of Vivace-latency

Start at: 2018-04-11 07:11:25
End at: 2018-04-11 07:11:55

# Below is generated by plot.py at 2018-04-11 12:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 391.32 Mbit/s
95th percentile per-packet one-way delay: 191.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 254.10 Mbit/s
95th percentile per-packet one-way delay: 213.006 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 169.62 Mbit/s
95th percentile per-packet one-way delay: 114.440 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.31 Mbit/s
95th percentile per-packet one-way delay: 114.595 ms
Loss rate: 0.00%
Run 4: Report of Vivace-latency — Data Link
Run 5: Statistics of Vivace-latency

Start at: 2018-04-11 07:30:42
End at: 2018-04-11 07:31:12

# Below is generated by plot.py at 2018-04-11 12:34:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.72 Mbit/s
95th percentile per-packet one-way delay: 128.449 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 235.45 Mbit/s
95th percentile per-packet one-way delay: 147.420 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 181.19 Mbit/s
95th percentile per-packet one-way delay: 117.941 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 121.48 Mbit/s
95th percentile per-packet one-way delay: 139.128 ms
Loss rate: 0.00%
Run 5: Report of Vivace-latency — Data Link
Run 6: Statistics of Vivace-latency

Start at: 2018-04-11 07:49:45
End at: 2018-04-11 07:50:15

# Below is generated by plot.py at 2018-04-11 12:34:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 339.56 Mbit/s
95th percentile per-packet one-way delay: 133.398 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 197.34 Mbit/s
95th percentile per-packet one-way delay: 183.293 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 177.57 Mbit/s
95th percentile per-packet one-way delay: 120.375 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 73.56 Mbit/s
95th percentile per-packet one-way delay: 114.357 ms
Loss rate: 0.01%
Run 6: Report of Vivace-latency — Data Link

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

- Flow 1 ingress (mean 198.04 Mbps)
- Flow 1 egress (mean 197.34 Mbps)
- Flow 2 ingress (mean 177.58 Mbps)
- Flow 2 egress (mean 177.57 Mbps)
- Flow 3 ingress (mean 73.56 Mbps)
- Flow 3 egress (mean 73.56 Mbps)

![Graph 2: Average delay (ms)](image2)

- Flow 1 (95th percentile 183.29 ms)
- Flow 2 (95th percentile 120.38 ms)
- Flow 3 (95th percentile 114.36 ms)
Run 7: Statistics of Vivace-latency

Start at: 2018-04-11 08:08:52
End at: 2018-04-11 08:09:22

# Below is generated by plot.py at 2018-04-11 12:36:00
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 425.08 Mbit/s
   95th percentile per-packet one-way delay: 174.999 ms
   Loss rate: 0.02%
-- Flow 1:
   Average throughput: 248.32 Mbit/s
   95th percentile per-packet one-way delay: 184.726 ms
   Loss rate: 0.02%
-- Flow 2:
   Average throughput: 197.99 Mbit/s
   95th percentile per-packet one-way delay: 134.520 ms
   Loss rate: 0.04%
-- Flow 3:
   Average throughput: 137.88 Mbit/s
   95th percentile per-packet one-way delay: 175.686 ms
   Loss rate: 0.02%
Run 8: Statistics of Vivace-latency

Start at: 2018-04-11 08:28:19
End at: 2018-04-11 08:28:49

# Below is generated by plot.py at 2018-04-11 12:36:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 380.87 Mbit/s
95th percentile per-packet one-way delay: 161.327 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 214.76 Mbit/s
95th percentile per-packet one-way delay: 169.576 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 182.20 Mbit/s
95th percentile per-packet one-way delay: 118.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 136.98 Mbit/s
95th percentile per-packet one-way delay: 188.533 ms
Loss rate: 0.00%
Run 8: Report of Vivace-latency — Data Link
Run 9: Statistics of Vivace-latency

Start at: 2018-04-11 08:47:13
End at: 2018-04-11 08:47:43

# Below is generated by plot.py at 2018-04-11 12:36:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 366.57 Mbit/s
  95th percentile per-packet one-way delay: 144.042 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 226.21 Mbit/s
  95th percentile per-packet one-way delay: 163.296 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 175.15 Mbit/s
  95th percentile per-packet one-way delay: 113.674 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 72.61 Mbit/s
  95th percentile per-packet one-way delay: 114.001 ms
  Loss rate: 0.01%
Run 9: Report of Vivace-latency — Data Link
Run 10: Statistics of Vivace-latency

Start at: 2018-04-11 09:05:33
End at: 2018-04-11 09:06:03

# Below is generated by plot.py at 2018-04-11 12:37:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.48 Mbit/s
95th percentile per-packet one-way delay: 322.858 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 237.25 Mbit/s
95th percentile per-packet one-way delay: 153.276 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 189.58 Mbit/s
95th percentile per-packet one-way delay: 340.403 ms
Loss rate: 6.82%
-- Flow 3:
Average throughput: 137.47 Mbit/s
95th percentile per-packet one-way delay: 134.080 ms
Loss rate: 0.00%
Run 10: Report of Vivace-latency — Data Link

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

- Flow 1 ingress (mean 238.02 Mbit/s)
- Flow 1 egress (mean 237.25 Mbit/s)
- Flow 2 ingress (mean 203.33 Mbit/s)
- Flow 2 egress (mean 189.58 Mbit/s)
- Flow 3 ingress (mean 137.47 Mbit/s)
- Flow 3 egress (mean 137.47 Mbit/s)

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

- Flow 1 (95th percentile 153.28 ms)
- Flow 2 (95th percentile 340.40 ms)
- Flow 3 (95th percentile 134.08 ms)
Run 1: Statistics of Vivace-loss

Start at: 2018-04-11 06:13:01
End at: 2018-04-11 06:13:31

# Below is generated by plot.py at 2018-04-11 12:38:03
# Datalink statistics
  -- Total of 3 flows:
    Average throughput: 398.16 Mbit/s
    95th percentile per-packet one-way delay: 322.504 ms
    Loss rate: 5.89%

  -- Flow 1:
    Average throughput: 299.41 Mbit/s
    95th percentile per-packet one-way delay: 328.572 ms
    Loss rate: 5.12%

  -- Flow 2:
    Average throughput: 96.02 Mbit/s
    95th percentile per-packet one-way delay: 271.382 ms
    Loss rate: 9.36%

  -- Flow 3:
    Average throughput: 106.28 Mbit/s
    95th percentile per-packet one-way delay: 288.938 ms
    Loss rate: 5.86%
Run 1: Report of Vivace-loss — Data Link

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

Flow 1 ingress (mean 315.57 Mbit/s) — Flow 1 egress (mean 299.41 Mbit/s)
Flow 2 ingress (mean 105.94 Mbit/s) — Flow 2 egress (mean 96.02 Mbit/s)
Flow 3 ingress (mean 112.89 Mbit/s) — Flow 3 egress (mean 106.28 Mbit/s)
Run 2: Statistics of Vivace-loss

Start at: 2018-04-11 06:31:49
End at: 2018-04-11 06:32:19

# Below is generated by plot.py at 2018-04-11 12:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.47 Mbit/s
95th percentile per-packet one-way delay: 360.571 ms
Loss rate: 5.85%
-- Flow 1:
Average throughput: 169.18 Mbit/s
95th percentile per-packet one-way delay: 380.372 ms
Loss rate: 6.89%
-- Flow 2:
Average throughput: 275.46 Mbit/s
95th percentile per-packet one-way delay: 358.930 ms
Loss rate: 5.86%
-- Flow 3:
Average throughput: 99.54 Mbit/s
95th percentile per-packet one-way delay: 122.895 ms
Loss rate: 0.00%
Run 2: Report of Vivace-loss — Data Link

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

- Flow 1 ingress (mean 181.70 Mbps)
- Flow 1 egress (mean 169.18 Mbps)
- Flow 2 ingress (mean 292.59 Mbps)
- Flow 2 egress (mean 275.46 Mbps)
- Flow 3 ingress (mean 99.50 Mbps)
- Flow 3 egress (mean 99.54 Mbps)

![Graph 2: Packet per packet delay (ms)]

- Flow 1 (95th percentile 380.37 ms)
- Flow 2 (95th percentile 358.93 ms)
- Flow 3 (95th percentile 122.89 ms)
Run 3: Statistics of Vivace-loss

Start at: 2018-04-11 06:50:57
End at: 2018-04-11 06:51:27

# Below is generated by plot.py at 2018-04-11 12:40:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 462.97 Mbit/s
  95th percentile per-packet one-way delay: 308.166 ms
  Loss rate: 2.40%
-- Flow 1:
  Average throughput: 268.77 Mbit/s
  95th percentile per-packet one-way delay: 306.227 ms
  Loss rate: 1.06%
-- Flow 2:
  Average throughput: 239.97 Mbit/s
  95th percentile per-packet one-way delay: 309.276 ms
  Loss rate: 2.28%
-- Flow 3:
  Average throughput: 105.54 Mbit/s
  95th percentile per-packet one-way delay: 360.100 ms
  Loss rate: 12.10%
Run 3: Report of Vivace-loss — Data Link

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

![Graph 2: Per-packet one-way delay (ms) vs Time (s)]
Run 4: Statistics of Vivace-loss

Start at: 2018-04-11 07:10:02
End at: 2018-04-11 07:10:32

# Below is generated by plot.py at 2018-04-11 12:42:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 445.53 Mbit/s
  95th percentile per-packet one-way delay: 232.689 ms
  Loss rate: 0.95%
-- Flow 1:
  Average throughput: 260.66 Mbit/s
  95th percentile per-packet one-way delay: 165.002 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 240.68 Mbit/s
  95th percentile per-packet one-way delay: 257.547 ms
  Loss rate: 2.10%
-- Flow 3:
  Average throughput: 76.21 Mbit/s
  95th percentile per-packet one-way delay: 113.717 ms
  Loss rate: 0.01%
Run 4: Report of Vivace-loss — Data Link
Run 5: Statistics of Vivace-loss

Start at: 2018-04-11 07:29:20
End at: 2018-04-11 07:29:50

# Below is generated by plot.py at 2018-04-11 12:43:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.81 Mbit/s
95th percentile per-packet one-way delay: 197.193 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 267.44 Mbit/s
95th percentile per-packet one-way delay: 185.631 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 195.83 Mbit/s
95th percentile per-packet one-way delay: 168.333 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 86.19 Mbit/s
95th percentile per-packet one-way delay: 315.161 ms
Loss rate: 6.49%
Run 5: Report of Vivace-loss — Data Link
Run 6: Statistics of Vivace-loss

End at: 2018-04-11 07:48:52

# Below is generated by plot.py at 2018-04-11 12:43:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 437.21 Mbit/s
  95th percentile per-packet one-way delay: 217.487 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 286.19 Mbit/s
  95th percentile per-packet one-way delay: 238.415 ms
  Loss rate: 0.20%
-- Flow 2:
  Average throughput: 179.56 Mbit/s
  95th percentile per-packet one-way delay: 121.155 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 96.45 Mbit/s
  95th percentile per-packet one-way delay: 203.893 ms
  Loss rate: 0.00%
Run 6: Report of Vivace-loss — Data Link
Run 7: Statistics of Vivace-loss

Start at: 2018-04-11 08:07:26
End at: 2018-04-11 08:07:56

# Below is generated by plot.py at 2018-04-11 12:44:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.36 Mbit/s
95th percentile per-packet one-way delay: 240.830 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 282.31 Mbit/s
95th percentile per-packet one-way delay: 231.704 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 245.36 Mbit/s
95th percentile per-packet one-way delay: 190.185 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 100.33 Mbit/s
95th percentile per-packet one-way delay: 344.718 ms
Loss rate: 3.97%
Run 7: Report of Vivace-loss — Data Link

![Graph of throughput and packet delay over time]

Legend:
- Flow 1 ingress (mean 285.39 Mbit/s)
- Flow 1 egress (mean 282.31 Mbit/s)
- Flow 2 ingress (mean 245.38 Mbit/s)
- Flow 2 egress (mean 245.36 Mbit/s)
- Flow 3 ingress (mean 104.47 Mbit/s)
- Flow 3 egress (mean 100.33 Mbit/s)

![Graph of packet delay over time]

Legend:
- Flow 1 (95th percentile 231.70 ms)
- Flow 2 (95th percentile 190.19 ms)
- Flow 3 (95th percentile 344.72 ms)
Run 8: Statistics of Vivace-loss

Start at: 2018-04-11 08:26:51
End at: 2018-04-11 08:27:21

# Below is generated by plot.py at 2018-04-11 12:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.72 Mbit/s
95th percentile per-packet one-way delay: 311.625 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 339.63 Mbit/s
95th percentile per-packet one-way delay: 312.397 ms
Loss rate: 3.47%
-- Flow 2:
Average throughput: 205.84 Mbit/s
95th percentile per-packet one-way delay: 312.067 ms
Loss rate: 2.90%
-- Flow 3:
Average throughput: 137.75 Mbit/s
95th percentile per-packet one-way delay: 299.041 ms
Loss rate: 4.29%
Run 8: Report of Vivace-loss — Data Link

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

- **Flow 1 ingress** (mean 351.80 Mbit/s)
- **Flow 1 egress** (mean 339.63 Mbit/s)
- **Flow 2 ingress** (mean 211.98 Mbit/s)
- **Flow 2 egress** (mean 205.84 Mbit/s)
- **Flow 3 ingress** (mean 143.92 Mbit/s)
- **Flow 3 egress** (mean 137.75 Mbit/s)

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

- **Flow 1 (95th percentile 312.40 ms)**
- **Flow 2 (95th percentile 312.07 ms)**
- **Flow 3 (95th percentile 299.04 ms)**
Run 9: Statistics of Vivace-loss

Start at: 2018-04-11 08:45:52
End at: 2018-04-11 08:46:22

# Below is generated by plot.py at 2018-04-11 12:46:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 432.34 Mbit/s
  95th percentile per-packet one-way delay: 279.434 ms
  Loss rate: 2.81%
-- Flow 1:
  Average throughput: 183.36 Mbit/s
  95th percentile per-packet one-way delay: 298.783 ms
  Loss rate: 3.95%
-- Flow 2:
  Average throughput: 265.09 Mbit/s
  95th percentile per-packet one-way delay: 240.930 ms
  Loss rate: 1.18%
-- Flow 3:
  Average throughput: 221.61 Mbit/s
  95th percentile per-packet one-way delay: 282.872 ms
  Loss rate: 3.74%
Run 9: Report of Vivace-loss — Data Link
Run 10: Statistics of Vivace-loss

Start at: 2018-04-11 09:04:22
End at: 2018-04-11 09:04:52

# Below is generated by plot.py at 2018-04-11 12:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.90 Mbit/s
95th percentile per-packet one-way delay: 340.697 ms
Loss rate: 5.01%
-- Flow 1:
Average throughput: 174.99 Mbit/s
95th percentile per-packet one-way delay: 351.379 ms
Loss rate: 7.25%
-- Flow 2:
Average throughput: 122.68 Mbit/s
95th percentile per-packet one-way delay: 113.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 107.36 Mbit/s
95th percentile per-packet one-way delay: 305.411 ms
Loss rate: 4.63%
Run 10: Report of Vivace-loss — Data Link

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![Graph 1](image1.png)

![Graph 2](image2.png)

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Run 1: Statistics of Vivace-LTE

Start at: 2018-04-11 06:24:10
End at: 2018-04-11 06:24:40

# Below is generated by plot.py at 2018-04-11 12:48:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 425.69 Mbit/s
  95th percentile per-packet one-way delay: 233.907 ms
  Loss rate: 0.74%
-- Flow 1:
  Average throughput: 257.79 Mbit/s
  95th percentile per-packet one-way delay: 244.561 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 189.00 Mbit/s
  95th percentile per-packet one-way delay: 225.898 ms
  Loss rate: 1.27%
-- Flow 3:
  Average throughput: 128.62 Mbit/s
  95th percentile per-packet one-way delay: 167.693 ms
  Loss rate: 0.00%
Run 1: Report of Vivace-LTE — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress** (mean 259.37 Mbps)
- **Flow 1 egress** (mean 257.79 Mbps)
- **Flow 2 ingress** (mean 191.43 Mbps)
- **Flow 2 egress** (mean 189.00 Mbps)
- **Flow 3 ingress** (mean 126.61 Mbps)
- **Flow 3 egress** (mean 126.62 Mbps)

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

- **Flow 1** (95th percentile 244.56 ms)
- **Flow 2** (95th percentile 225.90 ms)
- **Flow 3** (95th percentile 167.69 ms)
Run 2: Statistics of Vivace-LTE

Start at: 2018-04-11 06:42:52
End at: 2018-04-11 06:43:22

# Below is generated by plot.py at 2018-04-11 12:52:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 516.62 Mbit/s
  95th percentile per-packet one-way delay: 342.017 ms
  Loss rate: 5.05%
-- Flow 1:
  Average throughput: 298.31 Mbit/s
  95th percentile per-packet one-way delay: 354.726 ms
  Loss rate: 5.99%
-- Flow 2:
  Average throughput: 229.51 Mbit/s
  95th percentile per-packet one-way delay: 311.605 ms
  Loss rate: 1.33%
-- Flow 3:
  Average throughput: 200.49 Mbit/s
  95th percentile per-packet one-way delay: 323.978 ms
  Loss rate: 8.87%
Run 2: Report of Vivace-LTE — Data Link

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

- Flow 1 ingress (mean 317.32 Mbps)
- Flow 1 egress (mean 298.31 Mbps)
- Flow 2 ingress (mean 232.66 Mbps)
- Flow 2 egress (mean 229.51 Mbps)
- Flow 3 ingress (mean 220.15 Mbps)
- Flow 3 egress (mean 200.49 Mbps)

![Graph 2: Packet delay (ms)](image2)

- Flow 1 (95th percentile 354.73 ms)
- Flow 2 (95th percentile 311.61 ms)
- Flow 3 (95th percentile 323.98 ms)
Run 3: Statistics of Vivace-LTE

Start at: 2018-04-11 07:02:09
End at: 2018-04-11 07:02:39

# Below is generated by plot.py at 2018-04-11 12:52:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 342.41 Mbit/s
  95th percentile per-packet one-way delay: 120.509 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 221.22 Mbit/s
  95th percentile per-packet one-way delay: 120.836 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 113.04 Mbit/s
  95th percentile per-packet one-way delay: 112.896 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 140.37 Mbit/s
  95th percentile per-packet one-way delay: 138.856 ms
  Loss rate: 0.00%
Run 3: Report of Vivace-LTE — Data Link

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

- Flow 1 ingress (mean 221.22 Mbit/s)
- Flow 1 egress (mean 221.22 Mbit/s)
- Flow 2 ingress (mean 113.03 Mbit/s)
- Flow 2 egress (mean 113.04 Mbit/s)
- Flow 3 ingress (mean 140.40 Mbit/s)
- Flow 3 egress (mean 140.37 Mbit/s)

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

- Flow 1 (95th percentile 120.84 ms)
- Flow 2 (95th percentile 112.90 ms)
- Flow 3 (95th percentile 138.86 ms)
Run 4: Statistics of Vivace-LTE

Start at: 2018-04-11 07:21:26
End at: 2018-04-11 07:21:56

# Below is generated by plot.py at 2018-04-11 12:52:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 442.65 Mbit/s
  95th percentile per-packet one-way delay: 184.142 ms
  Loss rate: 0.48%
-- Flow 1:
  Average throughput: 283.88 Mbit/s
  95th percentile per-packet one-way delay: 153.835 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 187.00 Mbit/s
  95th percentile per-packet one-way delay: 123.157 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 105.05 Mbit/s
  95th percentile per-packet one-way delay: 326.700 ms
  Loss rate: 5.86%
Run 4: Report of Vivace-LTE — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 283.91 Mbps) — Flow 1 egress (mean 283.88 Mbps)
Flow 2 ingress (mean 187.01 Mbps) — Flow 2 egress (mean 187.00 Mbps)
Flow 3 ingress (mean 111.58 Mbps) — Flow 3 egress (mean 105.05 Mbps)

Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 153.94 ms) — Flow 2 (95th percentile 123.16 ms) — Flow 3 (95th percentile 326.70 ms)
Run 5: Statistics of Vivace-LTE

Start at: 2018-04-11 07:40:28
End at: 2018-04-11 07:40:58

# Below is generated by plot.py at 2018-04-11 12:52:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 402.30 Mbit/s
  95th percentile per-packet one-way delay: 151.752 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 231.79 Mbit/s
  95th percentile per-packet one-way delay: 155.718 ms
  Loss rate: 0.37%
-- Flow 2:
  Average throughput: 194.89 Mbit/s
  95th percentile per-packet one-way delay: 117.520 ms
  Loss rate: 0.01%
-- Flow 3:
  Average throughput: 125.01 Mbit/s
  95th percentile per-packet one-way delay: 250.164 ms
  Loss rate: 0.07%
Run 5: Report of Vivace-LTE — Data Link

![Throughput Graph](image1)

- Flow 1 ingress (mean 232.65 Mbit/s)
- Flow 1 egress (mean 231.79 Mbit/s)
- Flow 2 ingress (mean 194.91 Mbit/s)
- Flow 2 egress (mean 194.89 Mbit/s)
- Flow 3 ingress (mean 125.68 Mbit/s)
- Flow 3 egress (mean 125.01 Mbit/s)

![Packet Delay Graph](image2)

- Flow 1 (95th percentile 155.72 ms)
- Flow 2 (95th percentile 117.52 ms)
- Flow 3 (95th percentile 250.16 ms)
Run 6: Statistics of Vivace-LTE

Start at: 2018-04-11 07:59:28
End at: 2018-04-11 07:59:58

# Below is generated by plot.py at 2018-04-11 12:52:29
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 433.95 Mbit/s
 95th percentile per-packet one-way delay: 291.145 ms
 Loss rate: 1.49%
-- Flow 1:
 Average throughput: 309.19 Mbit/s
 95th percentile per-packet one-way delay: 294.418 ms
 Loss rate: 1.01%
-- Flow 2:
 Average throughput: 120.32 Mbit/s
 95th percentile per-packet one-way delay: 270.758 ms
 Loss rate: 4.09%
-- Flow 3:
 Average throughput: 136.12 Mbit/s
 95th percentile per-packet one-way delay: 203.637 ms
 Loss rate: 0.03%
Run 6: Report of Vivace-LTE — Data Link

Throughput (Mbps) vs Time (s)

- Flow 1 ingress (mean 312.34 Mbps)
- Flow 1 egress (mean 309.19 Mbps)
- Flow 2 ingress (mean 125.44 Mbps)
- Flow 2 egress (mean 120.32 Mbps)
- Flow 3 ingress (mean 136.12 Mbps)
- Flow 3 egress (mean 136.12 Mbps)

Packet error rate vs Time (s)

- Flow 1 (95th percentile 294.42 ms)
- Flow 2 (95th percentile 270.76 ms)
- Flow 3 (95th percentile 203.64 ms)
Run 7: Statistics of Vivace-LTE

Start at: 2018-04-11 08:18:50
End at: 2018-04-11 08:19:20

# Below is generated by plot.py at 2018-04-11 12:53:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 422.14 Mbit/s
  95th percentile per-packet one-way delay: 162.158 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 250.41 Mbit/s
  95th percentile per-packet one-way delay: 188.984 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 190.32 Mbit/s
  95th percentile per-packet one-way delay: 135.599 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 138.26 Mbit/s
  95th percentile per-packet one-way delay: 129.099 ms
  Loss rate: 0.00%
Run 7: Report of Vivace-LTE — Data Link

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

Legend:
- Flow 1 ingress (mean 250.27 Mb/s) - Flow 1 egress (mean 250.41 Mb/s)
- Flow 2 ingress (mean 189.96 Mb/s) - Flow 2 egress (mean 190.32 Mb/s)
- Flow 3 ingress (mean 137.98 Mb/s) - Flow 3 egress (mean 138.26 Mb/s)

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

Legend:
- Flow 1 (95th percentile 188.98 ms) - Flow 2 (95th percentile 135.60 ms) - Flow 3 (95th percentile 129.10 ms)
Run 8: Statistics of Vivace-LTE

Start at: 2018-04-11 08:38:03
End at: 2018-04-11 08:38:33

# Below is generated by plot.py at 2018-04-11 12:53:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.54 Mbit/s
95th percentile per-packet one-way delay: 227.773 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 252.60 Mbit/s
95th percentile per-packet one-way delay: 247.981 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 184.70 Mbit/s
95th percentile per-packet one-way delay: 133.813 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 131.94 Mbit/s
95th percentile per-packet one-way delay: 146.447 ms
Loss rate: 0.00%
Run 8: Report of Vivace-LTE — Data Link
Run 9: Statistics of Vivace-LTE

Start at: 2018-04-11 08:56:53
End at: 2018-04-11 08:57:23

# Below is generated by plot.py at 2018-04-11 12:53:24
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 333.76 Mbit/s
  95th percentile per-packet one-way delay: 320.960 ms
  Loss rate: 1.62%
-- Flow 1:
  Average throughput: 234.84 Mbit/s
  95th percentile per-packet one-way delay: 320.817 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 82.33 Mbit/s
  95th percentile per-packet one-way delay: 335.170 ms
  Loss rate: 7.96%
-- Flow 3:
  Average throughput: 134.23 Mbit/s
  95th percentile per-packet one-way delay: 154.003 ms
  Loss rate: 0.00%
Run 9: Report of Vivace-LTE — Data Link

![Graph showing throughput and per-packet one-way delay](image-url)
Run 10: Statistics of Vivace-LTE

Start at: 2018-04-11 09:15:14
End at: 2018-04-11 09:15:44

# Below is generated by plot.py at 2018-04-11 12:53:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 407.79 Mbit/s
95th percentile per-packet one-way delay: 292.360 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 234.24 Mbit/s
95th percentile per-packet one-way delay: 302.028 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 190.04 Mbit/s
95th percentile per-packet one-way delay: 124.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 143.59 Mbit/s
95th percentile per-packet one-way delay: 211.778 ms
Loss rate: 0.00%
Run 10: Report of Vivace-LTE — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 236.37 Mbps)  Flow 1 egress (mean 234.24 Mbps)
Flow 2 ingress (mean 190.03 Mbps)  Flow 2 egress (mean 190.04 Mbps)
Flow 3 ingress (mean 143.59 Mbps)  Flow 3 egress (mean 143.59 Mbps)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 302.03 ms)  Flow 2 (95th percentile 124.11 ms)  Flow 3 (95th percentile 211.78 ms)