Pantheon Report

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

System info:
Linux 4.15.0-1028-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e694aa89e93b032143cedbdf58e652f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd9f90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaeb4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fe872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961fa1a82733a86b42f1bc8143ebc978f3cf4f
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da38db2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutb2.cc
M src/network/sproutconn.cc
third_party/verus @ 4d447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
test from GCE London to GCE Sydney, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

Average throughput (Mbit/s) vs. 95th percentile one-way delay (ms)

- FillP
- FillP-Sheep
- Copa
- Indigo
- QUIC Cubic
- TCP Cubic
- Sprout
- Indigo-MusesD
- PCC-Vivace
- SCReAM
- TCP Vegas
- LEDBAT
- Verus
- TCP BBR
- Indigo-MusesC5
- PCC-Allegro
- Indigo-MusesT
- Indigo-MusesC3
- WebRTC media
- TaoVA-100x
- PCC-Expr
<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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<td>409.49</td>
<td>355.23</td>
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<td>343.86</td>
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<td>Verus</td>
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<td>PCC-Vivace</td>
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<td>160.69</td>
<td>104.83</td>
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<td>WebRTC media</td>
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Run 1: Statistics of TCP BBR

Start at: 2019-03-27 10:37:05
End at: 2019-03-27 10:37:35
Local clock offset: -0.353 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-03-27 13:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 759.41 Mbit/s
95th percentile per-packet one-way delay: 277.446 ms
Loss rate: 4.78%
-- Flow 1:
Average throughput: 421.84 Mbit/s
95th percentile per-packet one-way delay: 253.454 ms
Loss rate: 2.77%
-- Flow 2:
Average throughput: 383.11 Mbit/s
95th percentile per-packet one-way delay: 284.342 ms
Loss rate: 7.51%
-- Flow 3:
Average throughput: 255.86 Mbit/s
95th percentile per-packet one-way delay: 246.142 ms
Loss rate: 6.19%
Run 1: Report of TCP BBR — Data Link

![Throughput vs Time Graph]

- **Flow 1 ingress (mean 429.97 Mbit/s)**
- **Flow 1 egress (mean 421.84 Mbit/s)**
- **Flow 2 ingress (mean 408.68 Mbit/s)**
- **Flow 2 egress (mean 383.11 Mbit/s)**
- **Flow 3 ingress (mean 265.44 Mbit/s)**
- **Flow 3 egress (mean 255.96 Mbit/s)**

![Packet Delay vs Time Graph]

- **Flow 1 (95th percentile 253.45 ms)**
- **Flow 2 (95th percentile 284.34 ms)**
- **Flow 3 (95th percentile 246.14 ms)**
Run 2: Statistics of TCP BBR

Start at: 2019-03-27 11:18:31
End at: 2019-03-27 11:19:01
Local clock offset: 0.307 ms
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2019-03-27 13:58:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 718.04 Mbit/s
  95th percentile per-packet one-way delay: 281.364 ms
  Loss rate: 5.59%
-- Flow 1:
  Average throughput: 407.39 Mbit/s
  95th percentile per-packet one-way delay: 258.714 ms
  Loss rate: 3.83%
-- Flow 2:
  Average throughput: 338.90 Mbit/s
  95th percentile per-packet one-way delay: 292.281 ms
  Loss rate: 7.10%
-- Flow 3:
  Average throughput: 263.29 Mbit/s
  95th percentile per-packet one-way delay: 276.530 ms
  Loss rate: 9.59%
Run 2: Report of TCP BBR — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 419.82 Mbps)
Flow 1 egress (mean 407.39 Mbps)
Flow 2 ingress (mean 359.92 Mbps)
Flow 2 egress (mean 338.90 Mbps)
Flow 3 ingress (mean 283.41 Mbps)
Flow 3 egress (mean 263.29 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 258.71 ms)
Flow 2 (95th percentile 292.28 ms)
Flow 3 (95th percentile 276.53 ms)
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 12:00:50
End at: 2019-03-27 12:01:20
Local clock offset: 0.28 ms
Remote clock offset: -0.148 ms

# Below is generated by plot.py at 2019-03-27 13:58:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 686.86 Mbit/s
  95th percentile per-packet one-way delay: 295.425 ms
  Loss rate: 5.72%
-- Flow 1:
  Average throughput: 378.36 Mbit/s
  95th percentile per-packet one-way delay: 305.065 ms
  Loss rate: 6.51%
-- Flow 2:
  Average throughput: 341.53 Mbit/s
  95th percentile per-packet one-way delay: 241.816 ms
  Loss rate: 2.50%
-- Flow 3:
  Average throughput: 251.38 Mbit/s
  95th percentile per-packet one-way delay: 321.773 ms
  Loss rate: 10.39%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1 ingress** (mean 401.06 Mbit/s) vs. **Flow 1 egress** (mean 378.36 Mbit/s)
- **Flow 2 ingress** (mean 345.57 Mbit/s) vs. **Flow 2 egress** (mean 341.53 Mbit/s)
- **Flow 3 ingress** (mean 272.89 Mbit/s) vs. **Flow 3 egress** (mean 251.38 Mbit/s)
Run 4: Statistics of TCP BBR

Start at: 2019-03-27 12:44:35
End at: 2019-03-27 12:45:05
Local clock offset: 0.215 ms
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2019-03-27 13:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 713.54 Mbit/s
95th percentile per-packet one-way delay: 245.920 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 435.94 Mbit/s
95th percentile per-packet one-way delay: 235.018 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 320.52 Mbit/s
95th percentile per-packet one-way delay: 273.116 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 199.40 Mbit/s
95th percentile per-packet one-way delay: 133.934 ms
Loss rate: 4.44%
Run 4: Report of TCP BBR — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 436.48 Mbps)
  - Flow 1 egress (mean 435.94 Mbps)
  - Flow 2 ingress (mean 326.58 Mbps)
  - Flow 2 egress (mean 320.52 Mbps)
  - Flow 3 ingress (mean 203.06 Mbps)
  - Flow 3 egress (mean 199.40 Mbps)

- **Packet delay (ms):**
  - Flow 1 (95th percentile 235.02 ms)
  - Flow 2 (95th percentile 273.12 ms)
  - Flow 3 (95th percentile 133.93 ms)
Run 5: Statistics of TCP BBR

End at: 2019-03-27 13:28:05  
Local clock offset: 0.029 ms  
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2019-03-27 13:59:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 766.85 Mbit/s  
95th percentile per-packet one-way delay: 265.127 ms  
Loss rate: 3.24%  
-- Flow 1:  
Average throughput: 403.93 Mbit/s  
95th percentile per-packet one-way delay: 264.505 ms  
Loss rate: 2.98%  
-- Flow 2:  
Average throughput: 392.10 Mbit/s  
95th percentile per-packet one-way delay: 232.545 ms  
Loss rate: 2.35%  
-- Flow 3:  
Average throughput: 315.30 Mbit/s  
95th percentile per-packet one-way delay: 279.526 ms  
Loss rate: 6.36%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-03-27 10:16:17
End at: 2019-03-27 10:16:47
Local clock offset: 0.316 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2019-03-27 14:00:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 467.06 Mbit/s
  95th percentile per-packet one-way delay: 175.071 ms
  Loss rate: 1.52%
-- Flow 1:
  Average throughput: 239.18 Mbit/s
  95th percentile per-packet one-way delay: 175.919 ms
  Loss rate: 0.87%
-- Flow 2:
  Average throughput: 252.38 Mbit/s
  95th percentile per-packet one-way delay: 183.209 ms
  Loss rate: 1.62%
-- Flow 3:
  Average throughput: 185.45 Mbit/s
  95th percentile per-packet one-way delay: 166.236 ms
  Loss rate: 3.75%
Run 2: Statistics of Copa

Start at: 2019-03-27 10:58:43
End at: 2019-03-27 10:59:13
Local clock offset: -0.117 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-03-27 14:00:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 437.92 Mbit/s
95th percentile per-packet one-way delay: 196.389 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 196.34 Mbit/s
95th percentile per-packet one-way delay: 155.042 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 263.76 Mbit/s
95th percentile per-packet one-way delay: 202.372 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 204.42 Mbit/s
95th percentile per-packet one-way delay: 210.155 ms
Loss rate: 3.71%
Run 2: Report of Copa — Data Link

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

Legend:
- Flow 1 ingress (mean 196.97 Mbit/s) - blue dashed line
- Flow 1 egress (mean 196.34 Mbit/s) - purple dashed line
- Flow 2 ingress (mean 264.33 Mbit/s) - green dashed line
- Flow 2 egress (mean 263.76 Mbit/s) - green dash-dotted line
- Flow 3 ingress (mean 206.81 Mbit/s) - red dashed line
- Flow 3 egress (mean 204.42 Mbit/s) - red dash-dotted line

Per packet one way delay (ms):
- Flow 1 (95th percentile 155.04 ms) - blue filled circle
- Flow 2 (95th percentile 202.37 ms) - green filled circle
- Flow 3 (95th percentile 210.16 ms) - red filled circle
Run 3: Statistics of Copa

Start at: 2019-03-27 11:40:26
End at: 2019-03-27 11:40:56
Local clock offset: -0.343 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2019-03-27 14:02:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.88 Mbit/s
95th percentile per-packet one-way delay: 173.183 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 275.46 Mbit/s
95th percentile per-packet one-way delay: 166.816 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 259.68 Mbit/s
95th percentile per-packet one-way delay: 176.446 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 199.74 Mbit/s
95th percentile per-packet one-way delay: 179.685 ms
Loss rate: 4.01%
Run 3: Report of Copa — Data Link

[Graph showing throughput and per-packet one-way delay over time for different flows with labels for mean values]
Run 4: Statistics of Copa

Start at: 2019-03-27 12:23:30
End at: 2019-03-27 12:24:00
Local clock offset: 0.279 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-03-27 14:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 492.40 Mbit/s
95th percentile per-packet one-way delay: 181.821 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 268.07 Mbit/s
95th percentile per-packet one-way delay: 156.866 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 239.52 Mbit/s
95th percentile per-packet one-way delay: 206.551 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 200.85 Mbit/s
95th percentile per-packet one-way delay: 147.949 ms
Loss rate: 4.00%
Run 4: Report of Copa — Data Link

![Diagram 1: Throughput (Mbps)]

- Flow 1 ingress (mean 268.50 Mbps)
- Flow 1 egress (mean 268.07 Mbps)
- Flow 2 ingress (mean 240.07 Mbps)
- Flow 2 egress (mean 239.52 Mbps)
- Flow 3 ingress (mean 203.83 Mbps)
- Flow 3 egress (mean 200.85 Mbps)

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

- Flow 1 (95th percentile 156.87 ms)
- Flow 2 (95th percentile 206.55 ms)
- Flow 3 (95th percentile 147.95 ms)
Run 5: Statistics of Copa

Start at: 2019-03-27 13:07:04
End at: 2019-03-27 13:07:34
Local clock offset: 0.013 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 509.86 Mbit/s
95th percentile per-packet one-way delay: 162.830 ms
Loss rate: 1.54%
-- Flow 1:
  Average throughput: 279.66 Mbit/s
  95th percentile per-packet one-way delay: 153.436 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 250.25 Mbit/s
  95th percentile per-packet one-way delay: 172.746 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 197.16 Mbit/s
  95th percentile per-packet one-way delay: 157.392 ms
  Loss rate: 3.88%
Run 5: Report of Copa — Data Link

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

Start at: 2019-03-27 10:03:14
End at: 2019-03-27 10:03:44
Local clock offset: -0.064 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 741.10 Mbit/s
  95th percentile per-packet one-way delay: 189.999 ms
  Loss rate: 1.54%
-- Flow 1:
  Average throughput: 422.91 Mbit/s
  95th percentile per-packet one-way delay: 169.876 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 343.90 Mbit/s
  95th percentile per-packet one-way delay: 231.346 ms
  Loss rate: 1.36%
-- Flow 3:
  Average throughput: 276.17 Mbit/s
  95th percentile per-packet one-way delay: 158.073 ms
  Loss rate: 4.49%
Run 1: Report of TCP Cubic — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 423.38 Mbps)
  - Flow 1 egress (mean 422.91 Mbps)
  - Flow 2 ingress (mean 344.00 Mbps)
  - Flow 2 egress (mean 343.90 Mbps)
  - Flow 3 ingress (mean 281.46 Mbps)
  - Flow 3 egress (mean 276.17 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 169.88 ms)
  - Flow 2 (95th percentile 231.35 ms)
  - Flow 3 (95th percentile 158.07 ms)
Run 2: Statistics of TCP Cubic

End at: 2019-03-27 10:46:43
Local clock offset: -0.132 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 620.41 Mbit/s
  95th percentile per-packet one-way delay: 147.990 ms
  Loss rate: 1.52%
-- Flow 1:
  Average throughput: 375.20 Mbit/s
  95th percentile per-packet one-way delay: 145.167 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 254.93 Mbit/s
  95th percentile per-packet one-way delay: 141.096 ms
  Loss rate: 1.49%
-- Flow 3:
  Average throughput: 233.30 Mbit/s
  95th percentile per-packet one-way delay: 187.202 ms
  Loss rate: 4.29%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

End at: 2019-03-27 11:27:54
Local clock offset: -0.15 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 679.21 Mbit/s
95th percentile per-packet one-way delay: 151.722 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 400.10 Mbit/s
95th percentile per-packet one-way delay: 154.790 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 322.42 Mbit/s
95th percentile per-packet one-way delay: 137.911 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 199.96 Mbit/s
95th percentile per-packet one-way delay: 134.663 ms
Loss rate: 3.54%
Run 3: Report of TCP Cubic — Data Link

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

Flow 1 ingress (mean 400.16 Mbit/s), Flow 1 egress (mean 400.16 Mbit/s), Flow 2 ingress (mean 323.70 Mbit/s), Flow 2 egress (mean 322.42 Mbit/s), Flow 3 ingress (mean 201.78 Mbit/s), Flow 3 egress (mean 199.96 Mbit/s)

Flow 1 (95th percentile 154.79 ms), Flow 2 (95th percentile 137.91 ms), Flow 3 (95th percentile 134.66 ms)
Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 12:10:32
End at: 2019-03-27 12:11:02
Local clock offset: -0.163 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 612.16 Mbit/s
95th percentile per-packet one-way delay: 152.910 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 275.06 Mbit/s
95th percentile per-packet one-way delay: 134.046 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 378.18 Mbit/s
95th percentile per-packet one-way delay: 157.110 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 264.72 Mbit/s
95th percentile per-packet one-way delay: 185.236 ms
Loss rate: 4.01%
Run 4: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 275.46 Mbps)
- Flow 1 egress (mean 275.06 Mbps)
- Flow 2 ingress (mean 379.65 Mbps)
- Flow 2 egress (mean 378.18 Mbps)
- Flow 3 ingress (mean 268.43 Mbps)
- Flow 3 egress (mean 264.72 Mbps)

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

- Flow 1 (95th percentile 134.05 ms)
- Flow 2 (95th percentile 157.11 ms)
- Flow 3 (95th percentile 185.24 ms)
Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 12:54:10
End at: 2019-03-27 12:54:40
Local clock offset: 0.046 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 543.30 Mbit/s
  95th percentile per-packet one-way delay: 164.370 ms
  Loss rate: 1.94%
-- Flow 1:
  Average throughput: 246.04 Mbit/s
  95th percentile per-packet one-way delay: 133.911 ms
  Loss rate: 0.88%
-- Flow 2:
  Average throughput: 329.16 Mbit/s
  95th percentile per-packet one-way delay: 159.677 ms
  Loss rate: 1.85%
-- Flow 3:
  Average throughput: 241.92 Mbit/s
  95th percentile per-packet one-way delay: 261.468 ms
  Loss rate: 5.36%
Run 5: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

End at: 2019-03-27 10:22:50
Local clock offset: -0.484 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-03-27 14:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.06 Mbit/s
95th percentile per-packet one-way delay: 162.851 ms
Loss rate: 1.71%

-- Flow 1:
Average throughput: 92.00 Mbit/s
95th percentile per-packet one-way delay: 192.971 ms
Loss rate: 2.07%

-- Flow 2:
Average throughput: 298.26 Mbit/s
95th percentile per-packet one-way delay: 134.550 ms
Loss rate: 1.01%

-- Flow 3:
Average throughput: 225.87 Mbit/s
95th percentile per-packet one-way delay: 133.901 ms
Loss rate: 3.10%
Run 1: Report of FillP — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 226.54 Mbit/s)  Flow 1 egress (mean 225.87 Mbit/s)
Flow 2 ingress (mean 297.49 Mbit/s)  Flow 2 egress (mean 298.26 Mbit/s)
Flow 3 ingress (mean 95.18 Mbit/s)  Flow 3 egress (mean 92.00 Mbit/s)

Packet Loss Rate (loss rate)

Time (s)

Flow 1 (95th percentile 192.97 ms)  Flow 2 (95th percentile 134.55 ms)  Flow 3 (95th percentile 133.90 ms)
Run 2: Statistics of FillP

Start at: 2019-03-27 11:05:07
End at: 2019-03-27 11:05:38
Local clock offset: 0.142 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2019-03-27 14:29:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 732.69 Mbit/s
  95th percentile per-packet one-way delay: 184.838 ms
  Loss rate: 1.61%
-- Flow 1:
  Average throughput: 460.44 Mbit/s
  95th percentile per-packet one-way delay: 190.280 ms
  Loss rate: 1.46%
-- Flow 2:
  Average throughput: 302.36 Mbit/s
  95th percentile per-packet one-way delay: 136.243 ms
  Loss rate: 1.38%
-- Flow 3:
  Average throughput: 221.59 Mbit/s
  95th percentile per-packet one-way delay: 133.172 ms
  Loss rate: 3.20%
Run 2: Report of FillP — Data Link

![Graph showing network traffic and delay over time.]

Legend:
- Flow 1 ingress (mean 463.39 Mbit/s)
- Flow 1 egress (mean 460.48 Mbit/s)
- Flow 2 ingress (mean 302.21 Mbit/s)
- Flow 2 egress (mean 302.36 Mbit/s)
- Flow 3 ingress (mean 223.07 Mbit/s)
- Flow 3 egress (mean 221.59 Mbit/s)

![Graph showing network delay over time.]

Legend:
- Flow 1 (95th percentile 190.28 ms)
- Flow 2 (95th percentile 136.24 ms)
- Flow 3 (95th percentile 133.17 ms)
Run 3: Statistics of FillP

Start at: 2019-03-27 11:46:19
End at: 2019-03-27 11:46:49
Local clock offset: -0.298 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2019-03-27 14:29:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 734.09 Mbit/s
95th percentile per-packet one-way delay: 158.526 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 454.94 Mbit/s
95th percentile per-packet one-way delay: 163.884 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 319.69 Mbit/s
95th percentile per-packet one-way delay: 135.033 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 207.37 Mbit/s
95th percentile per-packet one-way delay: 136.210 ms
Loss rate: 4.07%
Run 3: Report of FillP — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 453.94 Mb/s)  Flow 1 egress (mean 454.94 Mb/s)
Flow 2 ingress (mean 319.17 Mb/s)  Flow 2 egress (mean 319.69 Mb/s)
Flow 3 ingress (mean 210.37 Mb/s)  Flow 3 egress (mean 207.37 Mb/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 163.88 ms)  Flow 2 (95th percentile 135.03 ms)  Flow 3 (95th percentile 136.21 ms)
Run 4: Statistics of FILLP

Start at: 2019-03-27 12:29:53
End at: 2019-03-27 12:30:23
Local clock offset: -0.132 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2019-03-27 14:30:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 733.93 Mbit/s
95th percentile per-packet one-way delay: 141.659 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 439.02 Mbit/s
95th percentile per-packet one-way delay: 153.805 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 337.66 Mbit/s
95th percentile per-packet one-way delay: 136.825 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 218.74 Mbit/s
95th percentile per-packet one-way delay: 136.988 ms
Loss rate: 2.92%
Run 4: Report of FillP — Data Link

![Graph of throughput and packet delay over time](image)

**Throughput (Mbps)**
- Flow 1 ingress (mean 458.71 Mbps)
- Flow 1 egress (mean 459.02 Mbps)
- Flow 2 ingress (mean 336.91 Mbps)
- Flow 2 egress (mean 337.66 Mbps)
- Flow 3 ingress (mean 219.41 Mbps)
- Flow 3 egress (mean 218.74 Mbps)

**Packet delay (ms)**
- Flow 1 (95th percentile 153.91 ms)
- Flow 2 (95th percentile 136.82 ms)
- Flow 3 (95th percentile 136.99 ms)
Run 5: Statistics of FillP

Local clock offset: -0.189 ms  
Remote clock offset: -0.178 ms  

# Below is generated by plot.py at 2019-03-27 14:30:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 526.35 Mbit/s  
95th percentile per-packet one-way delay: 140.557 ms  
Loss rate: 1.36%  
-- Flow 1:  
Average throughput: 245.20 Mbit/s  
95th percentile per-packet one-way delay: 143.339 ms  
Loss rate: 1.04%  
-- Flow 2:  
Average throughput: 326.24 Mbit/s  
95th percentile per-packet one-way delay: 139.134 ms  
Loss rate: 1.12%  
-- Flow 3:  
Average throughput: 199.75 Mbit/s  
95th percentile per-packet one-way delay: 136.804 ms  
Loss rate: 3.29%
Run 5: Report of FillP — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 Ingress (mean 245.46 Mb/s)  Flow 1 Egress (mean 245.20 Mb/s)
Flow 2 Ingress (mean 325.69 Mb/s)  Flow 2 Egress (mean 326.24 Mb/s)
Flow 3 Ingress (mean 201.30 Mb/s)  Flow 3 Egress (mean 199.75 Mb/s)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 143.34 ms)  Flow 2 (95th percentile 139.13 ms)
Flow 3 (95th percentile 136.00 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 10:10:17
End at: 2019-03-27 10:10:47
Local clock offset: -0.282 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-03-27 14:30:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.30 Mbit/s
95th percentile per-packet one-way delay: 146.126 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 99.25 Mbit/s
95th percentile per-packet one-way delay: 155.772 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 310.36 Mbit/s
95th percentile per-packet one-way delay: 137.649 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 227.71 Mbit/s
95th percentile per-packet one-way delay: 137.113 ms
Loss rate: 3.28%
Run 1: Report of FillP-Sheep — Data Link

Graph 1: Throughput (Mbps) vs Time (s)
- Flow 1 Ingress (mean 97.85 Mbps)
- Flow 1 Egress (mean 99.25 Mbps)
- Flow 2 Ingress (mean 309.92 Mbps)
- Flow 2 Egress (mean 310.36 Mbps)
- Flow 3 Ingress (mean 229.16 Mbps)
- Flow 3 Egress (mean 227.71 Mbps)

Graph 2: Per-packet one-way delay (ms) vs Time (s)
- Flow 1 (95th percentile 155.77 ms)
- Flow 2 (95th percentile 137.65 ms)
- Flow 3 (95th percentile 137.11 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 10:52:31
End at: 2019-03-27 10:53:01
Local clock offset: -0.17 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2019-03-27 14:30:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 730.43 Mbit/s
  95th percentile per-packet one-way delay: 154.489 ms
  Loss rate: 1.02%
-- Flow 1:
  Average throughput: 455.15 Mbit/s
  95th percentile per-packet one-way delay: 158.098 ms
  Loss rate: 0.63%
-- Flow 2:
  Average throughput: 301.25 Mbit/s
  95th percentile per-packet one-way delay: 136.956 ms
  Loss rate: 1.18%
-- Flow 3:
  Average throughput: 233.06 Mbit/s
  95th percentile per-packet one-way delay: 136.992 ms
  Loss rate: 2.90%
Run 2: Report of FillP-Sheep — Data Link

![Graph](image1)

![Graph](image2)
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 11:34:20
End at: 2019-03-27 11:34:50
Local clock offset: -0.154 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2019-03-27 14:30:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 382.21 Mbit/s
  95th percentile per-packet one-way delay: 145.320 ms
  Loss rate: 1.25%
-- Flow 1:
  Average throughput: 113.74 Mbit/s
  95th percentile per-packet one-way delay: 154.522 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 295.76 Mbit/s
  95th percentile per-packet one-way delay: 136.192 ms
  Loss rate: 1.12%
-- Flow 3:
  Average throughput: 222.88 Mbit/s
  95th percentile per-packet one-way delay: 134.182 ms
  Loss rate: 3.42%
Run 3: Report of FillP-Sheep — Data Link

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

- Flow 1 Ingress (mean 112.95 Mbps/s)
- Flow 1 Egress (mean 113.74 Mbps/s)
- Flow 2 Ingress (mean 295.32 Mbps/s)
- Flow 2 Egress (mean 295.76 Mbps/s)
- Flow 3 Ingress (mean 224.71 Mbps/s)
- Flow 3 Egress (mean 222.88 Mbps/s)

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

- Flow 1 (95th percentile 154.52 ms)
- Flow 2 (95th percentile 136.19 ms)
- Flow 3 (95th percentile 134.18 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 12:17:26
End at: 2019-03-27 12:17:56
Local clock offset: 0.031 ms
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2019-03-27 14:34:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 725.56 Mbit/s
95th percentile per-packet one-way delay: 154.368 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 442.20 Mbit/s
95th percentile per-packet one-way delay: 156.775 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 311.90 Mbit/s
95th percentile per-packet one-way delay: 156.994 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 236.04 Mbit/s
95th percentile per-packet one-way delay: 135.788 ms
Loss rate: 3.21%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 13:01:00
End at: 2019-03-27 13:01:30
Local clock offset: 0.191 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-03-27 14:39:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 705.57 Mbit/s
95th percentile per-packet one-way delay: 161.036 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 436.83 Mbit/s
95th percentile per-packet one-way delay: 170.292 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 301.34 Mbit/s
95th percentile per-packet one-way delay: 138.338 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 213.63 Mbit/s
95th percentile per-packet one-way delay: 137.496 ms
Loss rate: 2.80%
Run 5: Report of FillP-Sheep — Data Link
Run 1: Statistics of Indigo

Start at: 2019-03-27 10:08:10
End at: 2019-03-27 10:08:40
Local clock offset: -0.421 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-03-27 14:39:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 322.40 Mbit/s
  95th percentile per-packet one-way delay: 135.763 ms
  Loss rate: 1.35%
-- Flow 1:
  Average throughput: 165.02 Mbit/s
  95th percentile per-packet one-way delay: 134.510 ms
  Loss rate: 0.87%
-- Flow 2:
  Average throughput: 159.57 Mbit/s
  95th percentile per-packet one-way delay: 136.153 ms
  Loss rate: 1.32%
-- Flow 3:
  Average throughput: 145.06 Mbit/s
  95th percentile per-packet one-way delay: 142.922 ms
  Loss rate: 3.02%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2019-03-27 10:50:24
End at: 2019-03-27 10:50:54
Local clock offset: -0.157 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-03-27 14:39:07
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 307.30 Mbit/s
  95th percentile per-packet one-way delay: 135.255 ms
  Loss rate: 1.39%
-- Flow 1:
  Average throughput: 147.57 Mbit/s
  95th percentile per-packet one-way delay: 134.382 ms
  Loss rate: 0.90%
-- Flow 2:
  Average throughput: 167.55 Mbit/s
  95th percentile per-packet one-way delay: 135.660 ms
  Loss rate: 1.27%
-- Flow 3:
  Average throughput: 151.61 Mbit/s
  95th percentile per-packet one-way delay: 140.218 ms
  Loss rate: 3.11%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2019-03-27 11:32:14
End at: 2019-03-27 11:32:44
Local clock offset: -0.12 ms
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2019-03-27 14:41:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.97 Mbit/s
95th percentile per-packet one-way delay: 140.070 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 165.78 Mbit/s
95th percentile per-packet one-way delay: 137.326 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 156.64 Mbit/s
95th percentile per-packet one-way delay: 141.113 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 134.13 Mbit/s
95th percentile per-packet one-way delay: 151.039 ms
Loss rate: 3.33%
Run 3: Report of Indigo — Data Link

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

- **Throughput:**
  - Flow 1 ingress (mean 165.65 Mbit/s)
  - Flow 1 egress (mean 165.78 Mbit/s)
  - Flow 2 ingress (mean 156.62 Mbit/s)
  - Flow 2 egress (mean 156.64 Mbit/s)
  - Flow 3 ingress (mean 134.88 Mbit/s)
  - Flow 3 egress (mean 134.13 Mbit/s)

- **Delay:**
  - Flow 1 (95th percentile 137.33 ms)
  - Flow 2 (95th percentile 141.11 ms)
  - Flow 3 (95th percentile 151.04 ms)
Run 4: Statistics of Indigo

Start at: 2019-03-27 12:15:11
End at: 2019-03-27 12:15:41
Local clock offset: 0.235 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-03-27 14:42:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.44 Mbit/s
95th percentile per-packet one-way delay: 137.642 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 167.66 Mbit/s
95th percentile per-packet one-way delay: 135.873 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 168.44 Mbit/s
95th percentile per-packet one-way delay: 137.927 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 147.91 Mbit/s
95th percentile per-packet one-way delay: 150.629 ms
Loss rate: 3.12%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2019-03-27 12:58:44
End at: 2019-03-27 12:59:14
Local clock offset: -0.601 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-03-27 14:42:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.41 Mbit/s
95th percentile per-packet one-way delay: 138.896 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 171.69 Mbit/s
95th percentile per-packet one-way delay: 137.577 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 161.70 Mbit/s
95th percentile per-packet one-way delay: 140.363 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 140.18 Mbit/s
95th percentile per-packet one-way delay: 140.262 ms
Loss rate: 3.16%
Run 5: Report of Indigo — Data Link
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 10:31:56
End at: 2019-03-27 10:32:26
Local clock offset: 0.082 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2019-03-27 14:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.65 Mbit/s
95th percentile per-packet one-way delay: 147.086 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 417.54 Mbit/s
95th percentile per-packet one-way delay: 149.366 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 350.31 Mbit/s
95th percentile per-packet one-way delay: 137.719 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 252.18 Mbit/s
95th percentile per-packet one-way delay: 150.592 ms
Loss rate: 4.97%
Run 1: Report of Indigo-MusesC3 — Data Link

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

Flow 1 ingress (mean 416.60 Mbit/s)  Flow 1 egress (mean 417.54 Mbit/s)
Flow 2 ingress (mean 349.95 Mbit/s)  Flow 2 egress (mean 350.31 Mbit/s)
Flow 3 ingress (mean 256.13 Mbit/s)  Flow 3 egress (mean 252.18 Mbit/s)
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 11:14:25
End at: 2019-03-27 11:14:55
Local clock offset: 0.305 ms
Remote clock offset: -0.145 ms

# Below is generated by plot.py at 2019-03-27 14:47:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 669.46 Mbit/s
  95th percentile per-packet one-way delay: 139.265 ms
  Loss rate: 1.39%
-- Flow 1:
  Average throughput: 383.18 Mbit/s
  95th percentile per-packet one-way delay: 141.136 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 346.12 Mbit/s
  95th percentile per-packet one-way delay: 137.173 ms
  Loss rate: 1.02%
-- Flow 3:
  Average throughput: 244.51 Mbit/s
  95th percentile per-packet one-way delay: 136.935 ms
  Loss rate: 5.21%
Run 2: Report of Indigo-MusesC3 — Data Link

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

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

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Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 11:56:42
End at: 2019-03-27 11:57:12
Local clock offset: 0.12 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-03-27 14:51:09
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 739.62 Mbit/s
  95th percentile per-packet one-way delay: 150.914 ms
  Loss rate: 1.20%
-- Flow 1:
  Average throughput: 448.66 Mbit/s
  95th percentile per-packet one-way delay: 156.330 ms
  Loss rate: 0.63%
-- Flow 2:
  Average throughput: 361.41 Mbit/s
  95th percentile per-packet one-way delay: 144.781 ms
  Loss rate: 1.32%
-- Flow 3:
  Average throughput: 230.73 Mbit/s
  95th percentile per-packet one-way delay: 136.734 ms
  Loss rate: 4.77%
Run 3: Report of Indigo-MusesC3 — Data Link

The graphs depict the throughput and packet delay over time for different data flows. The upper graph shows the throughput in Mbps across time, with distinct lines for each flow indicating ingress and egress performance. The lower graph illustrates the per-packet delay, highlighting the 95th percentile delays for each flow.

Key observations:
- **Throughput**:
  - **Flow 1** (ingress): Mean 447.23 Mbps, Egress: Mean 448.66 Mbps
  - **Flow 2** (ingress): Mean 366.92 Mbps, Egress: Mean 361.41 Mbps
  - **Flow 3** (ingress): Mean 233.73 Mbps, Egress: Mean 230.73 Mbps
- **Packet Delay**:
  - **Flow 1**: 95th percentile 156.33 ms
  - **Flow 2**: 95th percentile 144.78 ms
  - **Flow 3**: 95th percentile 136.73 ms
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:39:54
End at: 2019-03-27 12:40:24
Local clock offset: -0.146 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-03-27 14:51:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 728.71 Mbit/s
  95th percentile per-packet one-way delay: 138.443 ms
  Loss rate: 1.21%
-- Flow 1:
  Average throughput: 434.09 Mbit/s
  95th percentile per-packet one-way delay: 138.026 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 346.83 Mbit/s
  95th percentile per-packet one-way delay: 141.721 ms
  Loss rate: 1.31%
-- Flow 3:
  Average throughput: 271.16 Mbit/s
  95th percentile per-packet one-way delay: 136.778 ms
  Loss rate: 4.40%
Run 4: Report of Indigo-MusesC3 — Data Link
Run 5: Statistics of Indigo-MusesC3

Local clock offset: -0.213 ms
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2019-03-27 14:53:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 699.93 Mbit/s
  95th percentile per-packet one-way delay: 155.377 ms
  Loss rate: 1.16%
-- Flow 1:
  Average throughput: 422.12 Mbit/s
  95th percentile per-packet one-way delay: 154.127 ms
  Loss rate: 0.77%
-- Flow 2:
  Average throughput: 341.45 Mbit/s
  95th percentile per-packet one-way delay: 159.835 ms
  Loss rate: 1.21%
-- Flow 3:
  Average throughput: 219.62 Mbit/s
  95th percentile per-packet one-way delay: 138.781 ms
  Loss rate: 3.73%
Run 5: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 421.38 Mbps)
Flow 1 egress (mean 422.12 Mbps)
Flow 2 ingress (mean 340.59 Mbps)
Flow 2 egress (mean 341.45 Mbps)
Flow 3 ingress (mean 220.10 Mbps)
Flow 3 egress (mean 219.62 Mbps)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 154.13 ms)
Flow 2 (95th percentile 159.84 ms)
Flow 3 (95th percentile 138.78 ms)
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 10:28:15
End at: 2019-03-27 10:28:45
Local clock offset: -0.28 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-03-27 14:53:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 573.20 Mbit/s
  95th percentile per-packet one-way delay: 194.016 ms
  Loss rate: 1.38%
-- Flow 1:
  Average throughput: 334.76 Mbit/s
  95th percentile per-packet one-way delay: 212.973 ms
  Loss rate: 0.81%
-- Flow 2:
  Average throughput: 331.77 Mbit/s
  95th percentile per-packet one-way delay: 145.043 ms
  Loss rate: 1.78%
-- Flow 3:
  Average throughput: 93.16 Mbit/s
  95th percentile per-packet one-way delay: 133.120 ms
  Loss rate: 5.28%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 11:10:52
End at: 2019-03-27 11:11:22
Local clock offset: -0.537 ms
Remote clock offset: -0.134 ms

# Below is generated by plot.py at 2019-03-27 14:53:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 548.80 Mbit/s
  95th percentile per-packet one-way delay: 158.216 ms
  Loss rate: 0.94%
-- Flow 1:
  Average throughput: 320.34 Mbit/s
  95th percentile per-packet one-way delay: 159.295 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 320.93 Mbit/s
  95th percentile per-packet one-way delay: 153.468 ms
  Loss rate: 1.06%
-- Flow 3:
  Average throughput: 88.00 Mbit/s
  95th percentile per-packet one-way delay: 133.233 ms
  Loss rate: 5.36%
Run 2: Report of Indigo-MusesC5 — Data Link

![Graph of Throughput and Packet Delay](image-url)

- **Flow 1**: Ingress (mean 318.82 Mbps) and Egress (mean 320.34 Mbps)
- **Flow 2**: Ingress (mean 320.13 Mbps) and Egress (mean 320.93 Mbps)
- **Flow 3**: Ingress (mean 89.85 Mbps) and Egress (mean 98.00 Mbps)

- **Per-packet one-way delay**:
  - Flow 1 (95th percentile 159.29 ms)
  - Flow 2 (95th percentile 153.47 ms)
  - Flow 3 (95th percentile 133.23 ms)
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 11:53:00
End at: 2019-03-27 11:53:30
Local clock offset: -0.501 ms
Remote clock offset: -0.156 ms

# Below is generated by plot.py at 2019-03-27 14:53:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 522.18 Mbit/s
  95th percentile per-packet one-way delay: 142.099 ms
  Loss rate: 1.26%
-- Flow 1:
  Average throughput: 328.01 Mbit/s
  95th percentile per-packet one-way delay: 143.662 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 274.56 Mbit/s
  95th percentile per-packet one-way delay: 140.174 ms
  Loss rate: 1.96%
-- Flow 3:
  Average throughput: 79.30 Mbit/s
  95th percentile per-packet one-way delay: 133.215 ms
  Loss rate: 5.16%
Run 3: Report of Indigo-Muses C5 — Data Link

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

- **Flow 1 ingress** (mean 326.96 Mbps)
- **Flow 1 egress** (mean 328.01 Mbps)
- **Flow 2 ingress** (mean 275.85 Mbps)
- **Flow 2 egress** (mean 274.56 Mbps)
- **Flow 3 ingress** (mean 80.65 Mbps)
- **Flow 3 egress** (mean 79.30 Mbps)

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

- **Flow 1** (95th percentile 143.66 ms)
- **Flow 2** (95th percentile 140.17 ms)
- **Flow 3** (95th percentile 133.22 ms)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:36:28  
End at: 2019-03-27 12:36:58  
Local clock offset: 0.146 ms  
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-03-27 14:55:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 568.66 Mbit/s  
95th percentile per-packet one-way delay: 149.428 ms  
Loss rate: 1.23%  
-- Flow 1:  
Average throughput: 341.40 Mbit/s  
95th percentile per-packet one-way delay: 153.154 ms  
Loss rate: 1.01%  
-- Flow 2:  
Average throughput: 319.32 Mbit/s  
95th percentile per-packet one-way delay: 144.837 ms  
Loss rate: 1.15%  
-- Flow 3:  
Average throughput: 91.74 Mbit/s  
95th percentile per-packet one-way delay: 133.980 ms  
Loss rate: 4.96%
Run 4: Report of Indigo-MusesC5 — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 341.66 Mbps)
- Flow 1 egress (mean 341.40 Mbps)
- Flow 2 ingress (mean 318.24 Mbps)
- Flow 2 egress (mean 319.32 Mbps)
- Flow 3 ingress (mean 93.05 Mbps)
- Flow 3 egress (mean 91.74 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 153.15 ms)
- Flow 2 (95th percentile 144.84 ms)
- Flow 3 (95th percentile 133.98 ms)
Run 5: Statistics of Indigo-MusesC5

End at: 2019-03-27 13:19:54
Local clock offset: -0.015 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2019-03-27 14:59:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 605.35 Mbit/s
  95th percentile per-packet one-way delay: 194.933 ms
  Loss rate: 0.93%
-- Flow 1:
  Average throughput: 372.15 Mbit/s
  95th percentile per-packet one-way delay: 188.771 ms
  Loss rate: 0.47%
-- Flow 2:
  Average throughput: 326.91 Mbit/s
  95th percentile per-packet one-way delay: 223.247 ms
  Loss rate: 1.25%
-- Flow 3:
  Average throughput: 89.00 Mbit/s
  95th percentile per-packet one-way delay: 133.606 ms
  Loss rate: 4.98%
Run 5: Report of Indigo-MusesC5 — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 369.82 Mbps)
  - Flow 1 egress (mean 372.15 Mbps)
  - Flow 2 ingress (mean 326.20 Mbps)
  - Flow 2 egress (mean 326.91 Mbps)
  - Flow 3 ingress (mean 90.46 Mbps)
  - Flow 3 egress (mean 89.00 Mbps)

![Graph showing latency over time.](image)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 188.77 ms)
  - Flow 2 (95th percentile 223.25 ms)
  - Flow 3 (95th percentile 133.61 ms)
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 10:34:50
End at: 2019-03-27 10:35:20
Local clock offset: -0.528 ms
Remote clock offset: 0.238 ms

# Below is generated by plot.py at 2019-03-27 15:03:15
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 614.21 Mbit/s
  95th percentile per-packet one-way delay: 162.515 ms
  Loss rate: 1.44%
-- Flow 1:
  Average throughput: 381.72 Mbit/s
  95th percentile per-packet one-way delay: 162.589 ms
  Loss rate: 1.04%
-- Flow 2:
  Average throughput: 336.31 Mbit/s
  95th percentile per-packet one-way delay: 164.477 ms
  Loss rate: 1.78%
-- Flow 3:
  Average throughput: 63.22 Mbit/s
  95th percentile per-packet one-way delay: 132.216 ms
  Loss rate: 5.86%
Run 1: Report of Indigo-MusesD — Data Link

![Graph showing throughput and per-packet Round-Trip-Time (RTT) over time for three flows.]

- **Flow 1 ingress** (mean 382.13 Mbit/s)
- **Flow 1 egress** (mean 381.72 Mbit/s)
- **Flow 2 ingress** (mean 337.31 Mbit/s)
- **Flow 2 egress** (mean 336.31 Mbit/s)
- **Flow 3 ingress** (mean 64.73 Mbit/s)
- **Flow 3 egress** (mean 63.22 Mbit/s)

![Graph showing per-packet delay time for three flows.]

- **Flow 1** (95th percentile 162.59 ms)
- **Flow 2** (95th percentile 164.48 ms)
- **Flow 3** (95th percentile 132.22 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 11:16:33
End at: 2019-03-27 11:17:03
Local clock offset: 0.09 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2019-03-27 15:03:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.31 Mbit/s
95th percentile per-packet one-way delay: 156.229 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 351.98 Mbit/s
95th percentile per-packet one-way delay: 147.637 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 344.53 Mbit/s
95th percentile per-packet one-way delay: 175.098 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 83.17 Mbit/s
95th percentile per-packet one-way delay: 133.827 ms
Loss rate: 4.67%
Run 2: Report of Indigo-MusesD — Data Link

![Throughput and Delay Graphs](image)

- **Throughput Graph**
  - Flow 1 ingress (mean 352.41 Mbit/s)
  - Flow 1 egress (mean 351.98 Mbit/s)
  - Flow 2 ingress (mean 344.45 Mbit/s)
  - Flow 2 egress (mean 344.53 Mbit/s)
  - Flow 3 ingress (mean 84.24 Mbit/s)
  - Flow 3 egress (mean 83.17 Mbit/s)

- **Delay Graph**
  - Flow 1 (95th percentile 147.64 ms)
  - Flow 2 (95th percentile 175.10 ms)
  - Flow 3 (95th percentile 133.83 ms)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 11:58:48
End at: 2019-03-27 11:59:18
Local clock offset: -0.131 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2019-03-27 15:04:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 593.82 Mbit/s
95th percentile per-packet one-way delay: 146.405 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 369.19 Mbit/s
95th percentile per-packet one-way delay: 148.209 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 320.56 Mbit/s
95th percentile per-packet one-way delay: 143.671 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 78.77 Mbit/s
95th percentile per-packet one-way delay: 134.174 ms
Loss rate: 4.48%
Run 3: Report of Indigo-MusesD — Data Link
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:42:11
End at: 2019-03-27 12:42:41
Local clock offset: 0.228 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-03-27 15:04:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 625.99 Mbit/s
95th percentile per-packet one-way delay: 152.599 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 403.02 Mbit/s
95th percentile per-packet one-way delay: 154.134 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 314.09 Mbit/s
95th percentile per-packet one-way delay: 149.875 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 134.277 ms
Loss rate: 4.50%
Run 4: Report of Indigo-MusesD — Data Link
Run 5: Statistics of Indigo-MusesD

End at: 2019-03-27 13:25:49
Local clock offset: 0.191 ms
Remote clock offset: -0.176 ms

# Below is generated by plot.py at 2019-03-27 15:05:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 643.75 Mbit/s
  95th percentile per-packet one-way delay: 169.612 ms
  Loss rate: 1.25%
-- Flow 1:
  Average throughput: 417.63 Mbit/s
  95th percentile per-packet one-way delay: 146.520 ms
  Loss rate: 0.95%
-- Flow 2:
  Average throughput: 318.98 Mbit/s
  95th percentile per-packet one-way delay: 221.394 ms
  Loss rate: 1.49%
-- Flow 3:
  Average throughput: 80.21 Mbit/s
  95th percentile per-packet one-way delay: 134.010 ms
  Loss rate: 4.58%
Run 5: Report of Indigo-MusesD — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 417.50 Mbps)
- Flow 1 egress (mean 417.63 Mbps)
- Flow 2 ingress (mean 318.92 Mbps)
- Flow 2 egress (mean 318.98 Mbps)
- Flow 3 ingress (mean 81.03 Mbps)
- Flow 3 egress (mean 80.21 Mbps)

Packet delay (ms):

- Flow 1 (95th percentile 146.52 ms)
- Flow 2 (95th percentile 221.39 ms)
- Flow 3 (95th percentile 134.01 ms)
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 09:57:09
End at: 2019-03-27 09:57:39
Local clock offset: -0.084 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2019-03-27 15:06:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 710.10 Mbit/s
  95th percentile per-packet one-way delay: 155.718 ms
  Loss rate: 1.23%
-- Flow 1:
  Average throughput: 446.12 Mbit/s
  95th percentile per-packet one-way delay: 162.013 ms
  Loss rate: 0.86%
-- Flow 2:
  Average throughput: 380.62 Mbit/s
  95th percentile per-packet one-way delay: 148.315 ms
  Loss rate: 1.57%
-- Flow 3:
  Average throughput: 91.99 Mbit/s
  95th percentile per-packet one-way delay: 133.565 ms
  Loss rate: 4.79%
Run 1: Report of Indigo-MusesT — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 445.71 Mbit/s)  
Flow 1 egress (mean 446.12 Mbit/s)  
Flow 2 ingress (mean 380.86 Mbit/s)  
Flow 2 egress (mean 380.62 Mbit/s)  
Flow 3 ingress (mean 93.09 Mbit/s)  
Flow 3 egress (mean 91.99 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 162.01 ms)  
Flow 2 (95th percentile 148.31 ms)  
Flow 3 (95th percentile 133.56 ms)
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 10:40:02
End at: 2019-03-27 10:40:32
Local clock offset: 0.045 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-03-27 15:10:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 743.91 Mbit/s
  95th percentile per-packet one-way delay: 206.375 ms
  Loss rate: 1.38%
-- Flow 1:
  Average throughput: 468.93 Mbit/s
  95th percentile per-packet one-way delay: 212.942 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 392.55 Mbit/s
  95th percentile per-packet one-way delay: 166.104 ms
  Loss rate: 1.98%
-- Flow 3:
  Average throughput: 90.48 Mbit/s
  95th percentile per-packet one-way delay: 133.113 ms
  Loss rate: 4.66%
Run 2: Report of Indigo-MusesT — Data Link

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

Flow 1 ingress (mean 468.52 Mbit/s), Flow 1 egress (mean 468.93 Mbit/s), Flow 2 ingress (mean 394.63 Mbit/s), Flow 2 egress (mean 392.55 Mbit/s), Flow 3 ingress (mean 91.61 Mbit/s), Flow 3 egress (mean 90.48 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 212.94 ms), Flow 2 (95th percentile 166.10 ms), Flow 3 (95th percentile 133.11 ms)

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Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 11:20:57
End at: 2019-03-27 11:21:27
Local clock offset: -0.083 ms
Remote clock offset: -0.143 ms

# Below is generated by plot.py at 2019-03-27 15:14:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 751.74 Mbit/s
95th percentile per-packet one-way delay: 198.259 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 493.34 Mbit/s
95th percentile per-packet one-way delay: 204.500 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 375.44 Mbit/s
95th percentile per-packet one-way delay: 187.462 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 91.39 Mbit/s
95th percentile per-packet one-way delay: 135.816 ms
Loss rate: 4.59%
Run 3: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 492.80 Mbps)
- Flow 1 egress (mean 493.34 Mbps)
- Flow 2 ingress (mean 374.80 Mbps)
- Flow 2 egress (mean 375.44 Mbps)
- Flow 3 ingress (mean 92.46 Mbps)
- Flow 3 egress (mean 91.39 Mbps)

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

- Flow 1 (95th percentile 204.50 ms)
- Flow 2 (95th percentile 187.46 ms)
- Flow 3 (95th percentile 135.82 ms)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:03:37
End at: 2019-03-27 12:04:07
Local clock offset: -0.107 ms
Remote clock offset: 0.209 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 723.97 Mbit/s
95th percentile per-packet one-way delay: 167.410 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 460.00 Mbit/s
95th percentile per-packet one-way delay: 169.339 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 377.61 Mbit/s
95th percentile per-packet one-way delay: 159.407 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 133.772 ms
Loss rate: 4.65%
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:46:57
End at: 2019-03-27 12:47:27
Local clock offset: 0.002 ms
Remote clock offset: -0.155 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 706.89 Mbit/s
  95th percentile per-packet one-way delay: 160.785 ms
  Loss rate: 1.32%
-- Flow 1:
  Average throughput: 443.51 Mbit/s
  95th percentile per-packet one-way delay: 163.045 ms
  Loss rate: 0.90%
-- Flow 2:
  Average throughput: 377.86 Mbit/s
  95th percentile per-packet one-way delay: 153.131 ms
  Loss rate: 1.78%
-- Flow 3:
  Average throughput: 92.42 Mbit/s
  95th percentile per-packet one-way delay: 133.303 ms
  Loss rate: 4.46%
Run 5: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 443.29 Mbps)
- Flow 1 egress (mean 443.51 Mbps)
- Flow 2 ingress (mean 379.98 Mbps)
- Flow 2 egress (mean 377.86 Mbps)
- Flow 3 ingress (mean 53.29 Mbps)
- Flow 3 egress (mean 92.42 Mbps)

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

- Flow 1 (95th percentile 163.04 ms)
- Flow 2 (95th percentile 153.13 ms)
- Flow 3 (95th percentile 133.30 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 10:30:35
End at: 2019-03-27 10:31:05
Local clock offset: -0.094 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 133.878 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 133.895 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 133.877 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 133.659 ms
Loss rate: 5.40%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 11:13:05
End at: 2019-03-27 11:13:35
Local clock offset: -0.377 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.01 Mbit/s
  95th percentile per-packet one-way delay: 133.655 ms
  Loss rate: 2.29%
-- Flow 1:
  Average throughput: 5.22 Mbit/s
  95th percentile per-packet one-way delay: 133.741 ms
  Loss rate: 1.78%
-- Flow 2:
  Average throughput: 3.43 Mbit/s
  95th percentile per-packet one-way delay: 133.534 ms
  Loss rate: 2.70%
-- Flow 3:
  Average throughput: 1.66 Mbit/s
  95th percentile per-packet one-way delay: 133.504 ms
  Loss rate: 5.40%
Run 2: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 5.27 Mbit/s)**
- **Flow 1 egress (mean 5.22 Mbit/s)**
- **Flow 2 ingress (mean 3.47 Mbit/s)**
- **Flow 2 egress (mean 3.43 Mbit/s)**
- **Flow 3 ingress (mean 1.71 Mbit/s)**
- **Flow 3 egress (mean 1.66 Mbit/s)**

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

- **Flow 1 (95th percentile 133.74 ms)**
- **Flow 2 (95th percentile 133.53 ms)**
- **Flow 3 (95th percentile 133.50 ms)**
Run 3: Statistics of LEDBAT

End at: 2019-03-27 11:55:52
Local clock offset: -0.122 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 133.710 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 5.18 Mbit/s
95th percentile per-packet one-way delay: 133.815 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 133.629 ms
Loss rate: 2.66%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 133.492 ms
Loss rate: 5.40%
Run 3: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 5.23 Mbit/s)
- Flow 1 egress (mean 5.18 Mbit/s)
- Flow 2 ingress (mean 3.35 Mbit/s)
- Flow 2 egress (mean 3.48 Mbit/s)
- Flow 3 ingress (mean 1.72 Mbit/s)
- Flow 3 egress (mean 1.67 Mbit/s)

- Flow 1 (95th percentile 133.81 ms)
- Flow 2 (95th percentile 133.63 ms)
- Flow 3 (95th percentile 133.49 ms)
Run 4: Statistics of LEDBAT

Start at: 2019-03-27 12:38:34
End at: 2019-03-27 12:39:04
Local clock offset: -0.016 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 134.102 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 134.177 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 133.978 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 133.706 ms
Loss rate: 5.41%
Run 4: Report of LEDBAT — Data Link

[Graph of Throughput vs Time showing various flow ingress and egress rates]

[Graph of Per-packet one-way delay vs Time showing 95th percentile delays for each flow]
Run 5: Statistics of LEDBAT

Local clock offset: 0.177 ms
Remote clock offset: -0.161 ms

# Below is generated by plot.py at 2019-03-27 15:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 134.592 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 134.488 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 134.634 ms
Loss rate: 2.64%
-- Flow 3:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 135.495 ms
Loss rate: 5.41%
Run 5: Report of LEDBAT — Data Link

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

- **Flow 1 ing**: mean 5.28 Mbit/s
- **Flow 1 egress**: mean 5.23 Mbit/s
- **Flow 2 ing**: mean 3.44 Mbit/s
- **Flow 2 egress**: mean 3.39 Mbit/s
- **Flow 3 ing**: mean 1.71 Mbit/s
- **Flow 3 egress**: mean 1.66 Mbit/s

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

- **Flow 1 (95th percentile)**: 134.49 ms
- **Flow 2 (95th percentile)**: 134.63 ms
- **Flow 3 (95th percentile)**: 135.50 ms
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 09:59:10
End at: 2019-03-27 09:59:40
Local clock offset: -0.316 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-03-27 15:22:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 483.35 Mbit/s
95th percentile per-packet one-way delay: 208.804 ms
Loss rate: 3.41%
-- Flow 1:
Average throughput: 247.97 Mbit/s
95th percentile per-packet one-way delay: 173.161 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 247.82 Mbit/s
95th percentile per-packet one-way delay: 236.095 ms
Loss rate: 3.94%
-- Flow 3:
Average throughput: 221.14 Mbit/s
95th percentile per-packet one-way delay: 297.871 ms
Loss rate: 7.61%
Run 1: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 250.17 Mbit/s)
- Flow 1 egress (mean 247.97 Mbit/s)
- Flow 2 ingress (mean 254.51 Mbit/s)
- Flow 2 egress (mean 247.82 Mbit/s)
- Flow 3 ingress (mean 232.85 Mbit/s)
- Flow 3 egress (mean 221.14 Mbit/s)
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 10:42:10
End at: 2019-03-27 10:42:40
Local clock offset: -0.354 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-03-27 15:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 587.53 Mbit/s
95th percentile per-packet one-way delay: 284.630 ms
Loss rate: 6.32%
-- Flow 1:
Average throughput: 316.53 Mbit/s
95th percentile per-packet one-way delay: 288.755 ms
Loss rate: 3.65%
-- Flow 2:
Average throughput: 297.75 Mbit/s
95th percentile per-packet one-way delay: 277.805 ms
Loss rate: 11.28%
-- Flow 3:
Average throughput: 228.80 Mbit/s
95th percentile per-packet one-way delay: 224.601 ms
Loss rate: 3.38%
Run 2: Report of PCC-Allegro — Data Link

Graph 1: Throughput (Mbps)

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

Legend:
- Flow 1 ingress (mean 325.57 Mbps)
- Flow 1 egress (mean 316.53 Mbps)
- Flow 2 ingress (mean 331.68 Mbps)
- Flow 2 egress (mean 297.75 Mbps)
- Flow 3 ingress (mean 236.50 Mbps)
- Flow 3 egress (mean 228.90 Mbps)

Legend for delay:
- Flow 1 (95th percentile 288.75 ms)
- Flow 2 (95th percentile 277.81 ms)
- Flow 3 (95th percentile 224.60 ms)
Run 3: Statistics of PCC-Allegro

End at: 2019-03-27 11:23:47
Local clock offset: 0.063 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2019-03-27 15:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 534.89 Mbit/s
95th percentile per-packet one-way delay: 260.792 ms
Loss rate: 5.34%
-- Flow 1:
Average throughput: 287.40 Mbit/s
95th percentile per-packet one-way delay: 264.397 ms
Loss rate: 7.19%
-- Flow 2:
Average throughput: 263.50 Mbit/s
95th percentile per-packet one-way delay: 199.385 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 226.26 Mbit/s
95th percentile per-packet one-way delay: 261.196 ms
Loss rate: 5.20%
Run 3: Report of PCC-Allegro — Data Link

![Graph](image-url)

Flow throughput and packet delay measurements for different flows over time.
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 12:05:48
End at: 2019-03-27 12:06:18
Local clock offset: -0.11 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-03-27 15:28:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 528.81 Mbit/s
  95th percentile per-packet one-way delay: 262.551 ms
  Loss rate: 4.85%
-- Flow 1:
  Average throughput: 276.60 Mbit/s
  95th percentile per-packet one-way delay: 269.172 ms
  Loss rate: 6.14%
-- Flow 2:
  Average throughput: 273.07 Mbit/s
  95th percentile per-packet one-way delay: 167.857 ms
  Loss rate: 1.70%
-- Flow 3:
  Average throughput: 220.84 Mbit/s
  95th percentile per-packet one-way delay: 277.388 ms
  Loss rate: 7.42%
Run 4: Report of PCC-Allegro — Data Link
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 12:49:26  
End at: 2019-03-27 12:49:56  
Local clock offset: -0.179 ms  
Remote clock offset: -0.109 ms  

# Below is generated by plot.py at 2019-03-27 15:35:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 595.17 Mbit/s  
95th percentile per-packet one-way delay: 326.656 ms  
Loss rate: 9.03%  
-- Flow 1:  
Average throughput: 354.81 Mbit/s  
95th percentile per-packet one-way delay: 273.824 ms  
Loss rate: 9.49%  
-- Flow 2:  
Average throughput: 265.55 Mbit/s  
95th percentile per-packet one-way delay: 317.146 ms  
Loss rate: 5.62%  
-- Flow 3:  
Average throughput: 199.80 Mbit/s  
95th percentile per-packet one-way delay: 419.773 ms  
Loss rate: 15.02%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 10:05:48
End at: 2019-03-27 10:06:18
Local clock offset: 0.386 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-03-27 15:35:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 445.00 Mbit/s
  95th percentile per-packet one-way delay: 256.196 ms
  Loss rate: 6.02%
-- Flow 1:
  Average throughput: 282.56 Mbit/s
  95th percentile per-packet one-way delay: 268.568 ms
  Loss rate: 7.40%
-- Flow 2:
  Average throughput: 175.65 Mbit/s
  95th percentile per-packet one-way delay: 197.181 ms
  Loss rate: 2.80%
-- Flow 3:
  Average throughput: 142.56 Mbit/s
  95th percentile per-packet one-way delay: 253.500 ms
  Loss rate: 5.27%
Run 2: Statistics of PCC-Expr

End at: 2019-03-27 10:48:50
Local clock offset: -0.129 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2019-03-27 15:35:02
# Datalink statistics
  -- Total of 3 flows:
  Average throughput: 393.60 Mbit/s
  95th percentile per-packet one-way delay: 212.623 ms
  Loss rate: 2.20%
  -- Flow 1:
  Average throughput: 229.34 Mbit/s
  95th percentile per-packet one-way delay: 220.709 ms
  Loss rate: 1.88%
  -- Flow 2:
  Average throughput: 174.96 Mbit/s
  95th percentile per-packet one-way delay: 163.084 ms
  Loss rate: 1.60%
  -- Flow 3:
  Average throughput: 149.61 Mbit/s
  95th percentile per-packet one-way delay: 252.291 ms
  Loss rate: 5.07%
Run 2: Report of PCC-Expr — Data Link

![Graph 1: Throughput](image1)

![Graph 2: Delay](image2)

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Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 11:29:43
End at: 2019-03-27 11:30:13
Local clock offset: -0.077 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2019-03-27 15:35:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.48 Mbit/s
95th percentile per-packet one-way delay: 196.095 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 260.77 Mbit/s
95th percentile per-packet one-way delay: 200.522 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 178.89 Mbit/s
95th percentile per-packet one-way delay: 138.024 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 142.84 Mbit/s
95th percentile per-packet one-way delay: 249.759 ms
Loss rate: 4.40%
Run 3: Report of PCC-Expr — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 263.22 Mbps)
  - Flow 1 egress (mean 260.77 Mbps)
  - Flow 2 ingress (mean 179.68 Mbps)
  - Flow 2 egress (mean 178.89 Mbps)
  - Flow 3 ingress (mean 145.37 Mbps)
  - Flow 3 egress (mean 142.84 Mbps)

- **Per-packet one way delay (ms)**
  - Flow 1 (95th percentile 200.52 ms)
  - Flow 2 (95th percentile 138.02 ms)
  - Flow 3 (95th percentile 249.76 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 12:12:47
End at: 2019-03-27 12:13:17
Local clock offset: -0.524 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-03-27 15:40:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.65 Mbit/s
95th percentile per-packet one-way delay: 223.076 ms
Loss rate: 2.68%
-- Flow 1:
Average throughput: 267.47 Mbit/s
95th percentile per-packet one-way delay: 226.775 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 177.60 Mbit/s
95th percentile per-packet one-way delay: 143.375 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 140.84 Mbit/s
95th percentile per-packet one-way delay: 256.074 ms
Loss rate: 5.81%
Run 4: Report of PCC-Expr — Data Link
Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 12:56:16
End at: 2019-03-27 12:56:46
Local clock offset: -0.181 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 457.63 Mbit/s
95th percentile per-packet one-way delay: 260.010 ms
Loss rate: 5.85%
-- Flow 1:
Average throughput: 284.86 Mbit/s
95th percentile per-packet one-way delay: 266.032 ms
Loss rate: 7.91%
-- Flow 2:
Average throughput: 190.05 Mbit/s
95th percentile per-packet one-way delay: 166.030 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 145.05 Mbit/s
95th percentile per-packet one-way delay: 144.157 ms
Loss rate: 3.70%
Run 5: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 10:12:07
End at: 2019-03-27 10:12:37
Local clock offset: 0.111 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 115.93 Mbit/s
  95th percentile per-packet one-way delay: 133.164 ms
  Loss rate: 1.75%
-- Flow 1:
  Average throughput: 58.95 Mbit/s
  95th percentile per-packet one-way delay: 133.148 ms
  Loss rate: 1.18%
-- Flow 2:
  Average throughput: 52.19 Mbit/s
  95th percentile per-packet one-way delay: 133.215 ms
  Loss rate: 1.77%
-- Flow 3:
  Average throughput: 59.66 Mbit/s
  95th percentile per-packet one-way delay: 133.141 ms
  Loss rate: 3.30%
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 10:54:39
End at: 2019-03-27 10:55:09
Local clock offset: -0.518 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 97.14 Mbit/s
  95th percentile per-packet one-way delay: 132.720 ms
  Loss rate: 1.76%
-- Flow 1:
  Average throughput: 54.54 Mbit/s
  95th percentile per-packet one-way delay: 132.627 ms
  Loss rate: 1.25%
-- Flow 2:
  Average throughput: 48.85 Mbit/s
  95th percentile per-packet one-way delay: 132.803 ms
  Loss rate: 2.09%
-- Flow 3:
  Average throughput: 31.59 Mbit/s
  95th percentile per-packet one-way delay: 132.139 ms
  Loss rate: 3.42%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 11:36:15
End at: 2019-03-27 11:36:45
Local clock offset: -0.149 ms
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 98.70 Mbit/s
  95th percentile per-packet one-way delay: 132.997 ms
  Loss rate: 1.59%
-- Flow 1:
  Average throughput: 56.15 Mbit/s
  95th percentile per-packet one-way delay: 133.007 ms
  Loss rate: 1.20%
-- Flow 2:
  Average throughput: 46.97 Mbit/s
  95th percentile per-packet one-way delay: 133.001 ms
  Loss rate: 2.12%
-- Flow 3:
  Average throughput: 35.33 Mbit/s
  95th percentile per-packet one-way delay: 132.523 ms
  Loss rate: 2.05%
Run 3: Report of QUIC Cubic — Data Link

[Graph showing network performance metrics over time with different flow rates and time delays.

Legend for graphs:
- Flow 1 ingress (mean 56.33 Mbit/s)
- Flow 1 egress (mean 56.15 Mbit/s)
- Flow 2 ingress (mean 47.35 Mbit/s)
- Flow 2 egress (mean 46.97 Mbit/s)
- Flow 3 ingress (mean 35.09 Mbit/s)
- Flow 3 egress (mean 35.33 Mbit/s)

Per-packet one-way delay (ms):
- Flow 1 (95th percentile 133.01 ms)
- Flow 2 (95th percentile 133.00 ms)
- Flow 3 (95th percentile 132.52 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 12:19:26
End at: 2019-03-27 12:19:56
Local clock offset: -0.566 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.89 Mbit/s
95th percentile per-packet one-way delay: 132.512 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 64.44 Mbit/s
95th percentile per-packet one-way delay: 132.538 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 37.25 Mbit/s
95th percentile per-packet one-way delay: 132.075 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 132.495 ms
Loss rate: 5.68%
Run 4: Report of QUIC Cubic — Data Link

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

Flow 1 ingress (mean 64.47 Mb/s) — Flow 1 egress (mean 64.44 Mb/s)
Flow 2 ingress (mean 37.77 Mb/s) — Flow 2 egress (mean 37.25 Mb/s)
Flow 3 ingress (mean 30.85 Mb/s) — Flow 3 egress (mean 29.90 Mb/s)
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 13:02:58
End at: 2019-03-27 13:03:28
Local clock offset: -0.358 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.29 Mbit/s
95th percentile per-packet one-way delay: 132.829 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 63.13 Mbit/s
95th percentile per-packet one-way delay: 132.844 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 46.64 Mbit/s
95th percentile per-packet one-way delay: 132.815 ms
Loss rate: 2.06%
-- Flow 3:
Average throughput: 34.78 Mbit/s
95th percentile per-packet one-way delay: 132.807 ms
Loss rate: 0.91%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-03-27 10:14:59
End at: 2019-03-27 10:15:29
Local clock offset: -0.143 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.104 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.134 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.680 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 132.686 ms
Loss rate: 2.44%
Run 1: Report of SCReAM — Data Link

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

Start at: 2019-03-27 10:57:25  
End at: 2019-03-27 10:57:55  
Local clock offset: -0.113 ms  
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.30 Mbit/s  
  95th percentile per-packet one-way delay: 133.239 ms  
  Loss rate: 1.27%  
-- Flow 1:
  Average throughput: 0.15 Mbit/s  
  95th percentile per-packet one-way delay: 133.261 ms  
  Loss rate: 0.88%  
-- Flow 2:
  Average throughput: 0.15 Mbit/s  
  95th percentile per-packet one-way delay: 133.066 ms  
  Loss rate: 1.39%  
-- Flow 3:
  Average throughput: 0.16 Mbit/s  
  95th percentile per-packet one-way delay: 133.157 ms  
  Loss rate: 2.13%
Run 3: Statistics of SCReAM

Start at: 2019-03-27 11:39:07
End at: 2019-03-27 11:39:38
Local clock offset: -0.471 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.30 Mbit/s
  95th percentile per-packet one-way delay: 132.829 ms
  Loss rate: 1.32%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 132.857 ms
  Loss rate: 0.88%
-- Flow 2:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 132.306 ms
  Loss rate: 1.39%
-- Flow 3:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 131.928 ms
  Loss rate: 2.45%
Run 3: Report of SCReAM — Data Link

![Graph of Throughput vs Time for different flows]

![Graph of Per-packet one-way delay vs Time for different flows]

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Run 4: Statistics of SCReAM

End at: 2019-03-27 12:22:42
Local clock offset: -0.117 ms
Remote clock offset: -0.181 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.257 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.244 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.327 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.000 ms
Loss rate: 2.45%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-03-27 13:05:46
End at: 2019-03-27 13:06:16
Local clock offset: -0.149 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.30 Mbit/s
  95th percentile per-packet one-way delay: 133.118 ms
  Loss rate: 1.32%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 133.155 ms
  Loss rate: 0.88%
-- Flow 2:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 132.768 ms
  Loss rate: 1.39%
-- Flow 3:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 132.710 ms
  Loss rate: 2.45%
Run 5: Report of SCReAM — Data Link

![Graph of Throughput (Mbps) over Time]

- **Flow 1 ingress (mean 0.15 Mbps)**
- **Flow 1 egress (mean 0.15 Mbps)**
- **Flow 2 ingress (mean 0.15 Mbps)**
- **Flow 2 egress (mean 0.15 Mbps)**
- **Flow 3 ingress (mean 0.16 Mbps)**
- **Flow 3 egress (mean 0.16 Mbps)**

![Graph of Packet one-way delay (ms) over Time]

- **Flow 1 (95th percentile 133.16 ms)**
- **Flow 2 (95th percentile 132.77 ms)**
- **Flow 3 (95th percentile 132.71 ms)**
Run 1: Statistics of Sprout

Start at: 2019-03-27 10:13:40
End at: 2019-03-27 10:14:10
Local clock offset: -0.489 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 133.046 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 132.875 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 133.129 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 132.457 ms
Loss rate: 2.91%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2019-03-27 10:56:06
End at: 2019-03-27 10:56:36
Local clock offset: -0.517 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.22 Mbit/s
  95th percentile per-packet one-way delay: 132.871 ms
  Loss rate: 1.50%
-- Flow 1:
  Average throughput: 0.58 Mbit/s
  95th percentile per-packet one-way delay: 132.800 ms
  Loss rate: 0.82%
-- Flow 2:
  Average throughput: 0.62 Mbit/s
  95th percentile per-packet one-way delay: 132.855 ms
  Loss rate: 1.55%
-- Flow 3:
  Average throughput: 0.69 Mbit/s
  95th percentile per-packet one-way delay: 132.930 ms
  Loss rate: 3.12%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-03-27 11:37:49
End at: 2019-03-27 11:38:19
Local clock offset: 0.066 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 133.434 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.439 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 133.404 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 133.462 ms
Loss rate: 3.50%
Run 3: Report of Sprout — Data Link

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**Throughput (Mbps)**

![Throughput Graph](image1)

**Delay (ms)**

![Delay Graph](image2)

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Run 4: Statistics of Sprout

Start at: 2019-03-27 12:20:53
Local clock offset: 0.288 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 133.745 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 133.777 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.600 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 133.230 ms
Loss rate: 3.08%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-03-27 13:04:27
End at: 2019-03-27 13:04:57
Local clock offset: -0.109 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2019-03-27 15:44:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1.24 Mbit/s
  95th percentile per-packet one-way delay: 133.437 ms
  Loss rate: 1.42%
-- Flow 1:
  Average throughput: 0.66 Mbit/s
  95th percentile per-packet one-way delay: 133.461 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 0.55 Mbit/s
  95th percentile per-packet one-way delay: 132.614 ms
  Loss rate: 1.31%
-- Flow 3:
  Average throughput: 0.64 Mbit/s
  95th percentile per-packet one-way delay: 133.387 ms
  Loss rate: 3.01%
Run 5: Report of Sprout — Data Link

![Graph showing throughput and packet delay over time for three different flows (1 ingress, 2 ingress, and 3 ingress).](image)

- **Throughput (Mbps):**
  - Flow 1 ingress: mean 0.66 Mbps
  - Flow 1 egress: mean 0.66 Mbps
  - Flow 2 ingress: mean 0.35 Mbps
  - Flow 2 egress: mean 0.55 Mbps
  - Flow 3 ingress: mean 0.64 Mbps
  - Flow 3 egress: mean 0.64 Mbps

- **Packet delay (ms):**
  - Flow 1 (95th percentile 133.46 ms)
  - Flow 2 (95th percentile 132.61 ms)
  - Flow 3 (95th percentile 133.39 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 10:19:00
End at: 2019-03-27 10:19:30
Local clock offset: 0.096 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-03-27 15:46:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 371.32 Mbit/s
  95th percentile per-packet one-way delay: 134.724 ms
  Loss rate: 1.67%
  -- Flow 1:
  Average throughput: 194.76 Mbit/s
  95th percentile per-packet one-way delay: 134.032 ms
  Loss rate: 1.11%
  -- Flow 2:
  Average throughput: 176.08 Mbit/s
  95th percentile per-packet one-way delay: 135.507 ms
  Loss rate: 1.82%
  -- Flow 3:
  Average throughput: 184.51 Mbit/s
  95th percentile per-packet one-way delay: 136.404 ms
  Loss rate: 3.18%
Run 2: Statistics of TaoVA-100x

Start at: 2019-03-27 11:01:40
End at: 2019-03-27 11:02:10
Local clock offset: -0.553 ms
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2019-03-27 15:46:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.49 Mbit/s
95th percentile per-packet one-way delay: 133.713 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 197.45 Mbit/s
95th percentile per-packet one-way delay: 133.753 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 132.694 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 161.04 Mbit/s
95th percentile per-packet one-way delay: 133.746 ms
Loss rate: 3.25%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2019-03-27 11:43:06
End at: 2019-03-27 11:43:36
Local clock offset: 0.111 ms
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2019-03-27 15:46:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 186.61 Mbit/s
95th percentile per-packet one-way delay: 134.368 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 13.01 Mbit/s
95th percentile per-packet one-way delay: 133.278 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 185.22 Mbit/s
95th percentile per-packet one-way delay: 134.530 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 157.29 Mbit/s
95th percentile per-packet one-way delay: 134.179 ms
Loss rate: 3.69%
Run 3: Report of TaoVA-100x — Data Link

![Graph](image)

- Flow 1 ingress (mean 13.01 Mbit/s)
- Flow 1 egress (mean 13.01 Mbit/s)
- Flow 2 ingress (mean 185.24 Mbit/s)
- Flow 2 egress (mean 185.22 Mbit/s)
- Flow 3 ingress (mean 156.96 Mbit/s)
- Flow 3 egress (mean 157.29 Mbit/s)

![Graph](image)

- Flow 1 (95th percentile 133.28 ms)
- Flow 2 (95th percentile 134.53 ms)
- Flow 3 (95th percentile 134.18 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 12:25:57
End at: 2019-03-27 12:26:27
Local clock offset: -0.295 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-03-27 15:46:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 316.37 Mbit/s
  95th percentile per-packet one-way delay: 134.219 ms
  Loss rate: 1.26%
-- Flow 1:
  Average throughput: 192.12 Mbit/s
  95th percentile per-packet one-way delay: 133.730 ms
  Loss rate: 1.00%
-- Flow 2:
  Average throughput: 181.27 Mbit/s
  95th percentile per-packet one-way delay: 134.760 ms
  Loss rate: 1.63%
-- Flow 3:
  Average throughput: 12.40 Mbit/s
  95th percentile per-packet one-way delay: 133.137 ms
  Loss rate: 2.86%
Run 5: Statistics of TaoVA-100x

Start at: 2019-03-27 13:09:54
End at: 2019-03-27 13:10:24
Local clock offset: -0.232 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2019-03-27 15:47:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.07 Mbit/s
95th percentile per-packet one-way delay: 135.451 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 184.78 Mbit/s
95th percentile per-packet one-way delay: 135.489 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 174.78 Mbit/s
95th percentile per-packet one-way delay: 135.207 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 172.83 Mbit/s
95th percentile per-packet one-way delay: 136.279 ms
Loss rate: 3.47%
Run 5: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 185.05 Mbit/s)
- Flow 1 egress (mean 184.78 Mbit/s)
- Flow 2 ingress (mean 175.46 Mbit/s)
- Flow 2 egress (mean 174.78 Mbit/s)
- Flow 3 ingress (mean 174.27 Mbit/s)
- Flow 3 egress (mean 172.83 Mbit/s)

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

- Flow 1 (95th percentile 135.49 ms)
- Flow 2 (95th percentile 135.21 ms)
- Flow 3 (95th percentile 136.28 ms)
Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 10:24:08
End at: 2019-03-27 10:24:38
Local clock offset: -0.381 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-03-27 15:47:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 420.83 Mbit/s
  95th percentile per-packet one-way delay: 165.190 ms
  Loss rate: 1.60%
-- Flow 1:
  Average throughput: 233.28 Mbit/s
  95th percentile per-packet one-way delay: 173.726 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 179.97 Mbit/s
  95th percentile per-packet one-way delay: 162.505 ms
  Loss rate: 1.22%
-- Flow 3:
  Average throughput: 208.60 Mbit/s
  95th percentile per-packet one-way delay: 164.151 ms
  Loss rate: 4.47%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput and packet delivery delay over time for different flows.]
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 11:07:07
End at: 2019-03-27 11:07:37
Local clock offset: -0.373 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2019-03-27 15:50:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.51 Mbit/s
95th percentile per-packet one-way delay: 178.853 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 237.91 Mbit/s
95th percentile per-packet one-way delay: 133.832 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 288.95 Mbit/s
95th percentile per-packet one-way delay: 187.455 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 254.07 Mbit/s
95th percentile per-packet one-way delay: 188.072 ms
Loss rate: 3.70%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

End at: 2019-03-27 11:49:13
Local clock offset: -0.317 ms
Remote clock offset: -0.177 ms

# Below is generated by plot.py at 2019-03-27 15:54:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 621.08 Mbit/s
95th percentile per-packet one-way delay: 142.465 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 323.56 Mbit/s
95th percentile per-packet one-way delay: 134.114 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 330.49 Mbit/s
95th percentile per-packet one-way delay: 162.014 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 240.23 Mbit/s
95th percentile per-packet one-way delay: 163.617 ms
Loss rate: 3.89%
Run 3: Report of TCP Vegas — Data Link

![Graphs showing throughput and packet delay for flows 1, 2, and 3.](image)

- Flow 1 ingress (mean 323.88 Mbit/s)
- Flow 1 egress (mean 323.56 Mbit/s)
- Flow 2 ingress (mean 332.05 Mbit/s)
- Flow 2 egress (mean 330.49 Mbit/s)
- Flow 3 ingress (mean 243.23 Mbit/s)
- Flow 3 egress (mean 240.23 Mbit/s)

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Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 12:32:16
End at: 2019-03-27 12:32:46
Local clock offset: -0.402 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-03-27 15:54:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 513.71 Mbit/s
  95th percentile per-packet one-way delay: 166.572 ms
  Loss rate: 1.19%
-- Flow 1:
  Average throughput: 211.96 Mbit/s
  95th percentile per-packet one-way delay: 139.714 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 338.87 Mbit/s
  95th percentile per-packet one-way delay: 172.855 ms
  Loss rate: 0.81%
-- Flow 3:
  Average throughput: 236.67 Mbit/s
  95th percentile per-packet one-way delay: 138.294 ms
  Loss rate: 3.98%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 13:15:19
End at: 2019-03-27 13:15:49
Local clock offset: 0.226 ms
Remote clock offset: -0.19 ms

# Below is generated by plot.py at 2019-03-27 15:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 586.62 Mbit/s
95th percentile per-packet one-way delay: 158.132 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 325.85 Mbit/s
95th percentile per-packet one-way delay: 141.082 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 237.22 Mbit/s
95th percentile per-packet one-way delay: 182.227 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 316.95 Mbit/s
95th percentile per-packet one-way delay: 160.118 ms
Loss rate: 4.06%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-03-27 10:01:16
End at: 2019-03-27 10:01:46
Local clock offset: -0.467 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-03-27 15:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.13 Mbit/s
95th percentile per-packet one-way delay: 305.077 ms
Loss rate: 4.92%
-- Flow 1:
Average throughput: 107.70 Mbit/s
95th percentile per-packet one-way delay: 312.913 ms
Loss rate: 6.49%
-- Flow 2:
Average throughput: 86.87 Mbit/s
95th percentile per-packet one-way delay: 203.727 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 17.85 Mbit/s
95th percentile per-packet one-way delay: 136.581 ms
Loss rate: 4.75%
Run 1: Report of Verus — Data Link

Graph 1: Throughput (Mbps)
- Flow 1 ingress (mean 115.69 Mbps)
- Flow 1 egress (mean 107.70 Mbps)
- Flow 2 ingress (mean 87.30 Mbps)
- Flow 2 egress (mean 86.87 Mbps)
- Flow 3 ingress (mean 18.23 Mbps)
- Flow 3 egress (mean 17.85 Mbps)

Graph 2: Per-packet one-way delay (ms)
- Flow 1 (95th percentile 312.91 ms)
- Flow 2 (95th percentile 203.73 ms)
- Flow 3 (95th percentile 136.58 ms)
Run 2: Statistics of Verus

Start at: 2019-03-27 10:44:40
End at: 2019-03-27 10:45:10
Local clock offset: -0.137 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-03-27 15:56:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.11 Mbit/s
  95th percentile per-packet one-way delay: 140.574 ms
  Loss rate: 2.65%
-- Flow 1:
  Average throughput: 48.82 Mbit/s
  95th percentile per-packet one-way delay: 142.943 ms
  Loss rate: 2.27%
-- Flow 2:
  Average throughput: 38.15 Mbit/s
  95th percentile per-packet one-way delay: 138.482 ms
  Loss rate: 1.52%
-- Flow 3:
  Average throughput: 38.30 Mbit/s
  95th percentile per-packet one-way delay: 138.458 ms
  Loss rate: 6.32%
Run 2: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 49.50 Mbit/s)**
- **Flow 1 egress (mean 48.82 Mbit/s)**
- **Flow 2 ingress (mean 38.19 Mbit/s)**
- **Flow 2 egress (mean 38.15 Mbit/s)**
- **Flow 3 ingress (mean 39.63 Mbit/s)**
- **Flow 3 egress (mean 38.30 Mbit/s)**

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

- **Flow 1 (95th percentile 142.94 ms)**
- **Flow 2 (95th percentile 138.48 ms)**
- **Flow 3 (95th percentile 138.46 ms)**
Run 3: Statistics of Verus

Start at: 2019-03-27 11:25:43
End at: 2019-03-27 11:26:13
Local clock offset: -0.548 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2019-03-27 15:56:25
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 117.41 Mbit/s
  95th percentile per-packet one-way delay: 297.016 ms
  Loss rate: 4.59%
-- Flow 1:
  Average throughput: 66.19 Mbit/s
  95th percentile per-packet one-way delay: 307.296 ms
  Loss rate: 6.77%
-- Flow 2:
  Average throughput: 61.01 Mbit/s
  95th percentile per-packet one-way delay: 211.193 ms
  Loss rate: 0.61%
-- Flow 3:
  Average throughput: 33.12 Mbit/s
  95th percentile per-packet one-way delay: 140.482 ms
  Loss rate: 5.24%
Run 3: Report of Verus — Data Link

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

Start at: 2019-03-27 12:08:25
End at: 2019-03-27 12:08:55
Local clock offset: 0.2 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-03-27 15:56:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.79 Mbit/s
95th percentile per-packet one-way delay: 299.739 ms
Loss rate: 5.87%
-- Flow 1:
Average throughput: 47.79 Mbit/s
95th percentile per-packet one-way delay: 150.852 ms
Loss rate: 3.03%
-- Flow 2:
Average throughput: 161.60 Mbit/s
95th percentile per-packet one-way delay: 308.678 ms
Loss rate: 7.52%
-- Flow 3:
Average throughput: 26.76 Mbit/s
95th percentile per-packet one-way delay: 138.584 ms
Loss rate: 0.08%
Run 5: Statistics of Verus

Start at: 2019-03-27 12:52:17
End at: 2019-03-27 12:52:47
Local clock offset: -0.015 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-03-27 15:56:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.59 Mbit/s
95th percentile per-packet one-way delay: 221.162 ms
Loss rate: 2.52%
-- Flow 1:
Average throughput: 55.16 Mbit/s
95th percentile per-packet one-way delay: 172.960 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 103.93 Mbit/s
95th percentile per-packet one-way delay: 216.580 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 72.56 Mbit/s
95th percentile per-packet one-way delay: 294.170 ms
Loss rate: 10.91%
Run 5: Report of Verus — Data Link

![Graph showing throughput and packet delay over time for different flows with mean throughputs and 95th percentile delays.]
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 10:26:05
End at: 2019-03-27 10:26:35
Local clock offset: 0.245 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-03-27 15:58:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 440.69 Mbit/s
95th percentile per-packet one-way delay: 142.913 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 288.64 Mbit/s
95th percentile per-packet one-way delay: 143.333 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 172.91 Mbit/s
95th percentile per-packet one-way delay: 136.248 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 115.95 Mbit/s
95th percentile per-packet one-way delay: 149.730 ms
Loss rate: 4.75%
Run 1: Report of PCC-Vivace — Data Link

![Throughput Graph](image1)

- Flow 1 ingress (mean 287.98 Mbit/s)
- Flow 1 egress (mean 288.64 Mbit/s)
- Flow 2 ingress (mean 174.63 Mbit/s)
- Flow 2 egress (mean 172.91 Mbit/s)
- Flow 3 ingress (mean 118.42 Mbit/s)
- Flow 3 egress (mean 115.95 Mbit/s)

![Packet Delay Graph](image2)

- Flow 1 (95th percentile 143.33 ms)
- Flow 2 (95th percentile 136.25 ms)
- Flow 3 (95th percentile 149.73 ms)
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 11:09:05
End at: 2019-03-27 11:09:35
Local clock offset: 0.307 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2019-03-27 15:58:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 269.39 Mbit/s
95th percentile per-packet one-way delay: 314.587 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 190.07 Mbit/s
95th percentile per-packet one-way delay: 337.277 ms
Loss rate: 2.19%
-- Flow 2:
Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: 134.023 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 121.72 Mbit/s
95th percentile per-packet one-way delay: 150.247 ms
Loss rate: 3.89%
Run 2: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 192.59 Mbps)  Flow 1 egress (mean 190.07 Mbps)
Flow 2 ingress (mean 62.03 Mbps)  Flow 2 egress (mean 60.26 Mbps)
Flow 3 ingress (mean 123.23 Mbps)  Flow 3 egress (mean 121.72 Mbps)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 337.28 ms)  Flow 2 (95th percentile 134.02 ms)  Flow 3 (95th percentile 150.25 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 11:50:51
End at: 2019-03-27 11:51:21
Local clock offset: -0.375 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-03-27 15:58:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.10 Mbit/s
95th percentile per-packet one-way delay: 139.579 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 219.48 Mbit/s
95th percentile per-packet one-way delay: 132.888 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 191.36 Mbit/s
95th percentile per-packet one-way delay: 176.592 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 117.16 Mbit/s
95th percentile per-packet one-way delay: 160.404 ms
Loss rate: 4.35%
Run 3: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 219.50 Mbps)  Flow 2 ingress (mean 193.26 Mbps)  Flow 3 ingress (mean 119.15 Mbps)
Flow 1 egress (mean 219.48 Mbps)  Flow 2 egress (mean 191.36 Mbps)  Flow 3 egress (mean 117.16 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 132.99 ms)  Flow 2 (95th percentile 176.59 ms)  Flow 3 (95th percentile 160.40 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 12:34:35
End at: 2019-03-27 12:35:05
Local clock offset: -0.178 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-03-27 15:58:46
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 302.60 Mbit/s
  95th percentile per-packet one-way delay: 134.960 ms
  Loss rate: 2.10%
-- Flow 1:
  Average throughput: 132.71 Mbit/s
  95th percentile per-packet one-way delay: 133.033 ms
  Loss rate: 1.53%
-- Flow 2:
  Average throughput: 191.35 Mbit/s
  95th percentile per-packet one-way delay: 135.908 ms
  Loss rate: 1.93%
-- Flow 3:
  Average throughput: 133.63 Mbit/s
  95th percentile per-packet one-way delay: 138.100 ms
  Loss rate: 4.32%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 13:17:29
End at: 2019-03-27 13:17:59
Local clock offset: -0.175 ms
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.70 Mbit/s
95th percentile per-packet one-way delay: 133.757 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 183.96 Mbit/s
95th percentile per-packet one-way delay: 133.535 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 187.58 Mbit/s
95th percentile per-packet one-way delay: 134.610 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 132.631 ms
Loss rate: 4.05%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 10:21:02
End at: 2019-03-27 10:21:32
Local clock offset: -0.106 ms
Remote clock offset: -0.152 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 133.007 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.06 Mbit/s
  95th percentile per-packet one-way delay: 132.709 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 133.057 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 132.786 ms
  Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2019-03-27 11:03:49
End at: 2019-03-27 11:04:19
Local clock offset: 0.13 ms
Remote clock offset: -0.148 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.481 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.522 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.468 ms
Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-03-27 11:45:00
End at: 2019-03-27 11:45:30
Local clock offset: 0.254 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.442 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.668 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.503 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.811 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link

- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 0.05 Mbps)
- Flow 1 egress (mean 0.05 Mbps)
- Flow 2 ingress (mean 0.05 Mbps)
- Flow 2 egress (mean 0.05 Mbps)
- Flow 3 ingress (mean 0.05 Mbps)
- Flow 3 egress (mean 0.05 Mbps)

- Per-packet one-way delay (ms)
- Time (s)
- Flow 1 (95th percentile 132.67 ms)
- Flow 2 (95th percentile 133.50 ms)
- Flow 3 (95th percentile 132.81 ms)
Run 4: Statistics of WebRTC media

End at: 2019-03-27 12:29:05
Local clock offset: -0.136 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalog statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.423 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.743 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.393 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.520 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

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

![Graph 2: Round-trip delay vs Time](image2)

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Run 5: Statistics of WebRTC media

Start at: 2019-03-27 13:12:11
End at: 2019-03-27 13:12:41
Local clock offset: -0.592 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-03-27 15:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.042 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.971 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 134.717 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

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

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

![Graph showing perceived end-to-end delay over time for different flows.]

- Flow 1 (95th percentile 133.04 ms)
- Flow 2 (95th percentile 132.97 ms)
- Flow 3 (95th percentile 134.72 ms)