Pantheon Report

Data path: GCE London Ethernet (remote) → GCE Sydney Ethernet (local).
Repeated the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

Git summary:
branch: master @ 640164b5b17c7c6561fff577729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436d6d46834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf8e562f4
third_party/indigo @ 2601c92e4aaa9d58d38cd4cde0edcbe59c077e64d
third_party/libupnp @ b3465b942e2826f2b179eaababa906ce6bb7c3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d6d66d623c091a55fec872b981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08f3b92c4eb24f974ab
third_party/proto-quic @ 77961f11a82733a86b42f1bc814e9c978f3ccf42
third_party/scream-reproduce @ f099118d421a3131bf1ff1964974e1a3db2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c017801e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2bf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9d4735770d143a1fa2851
test from GCE London to GCE Sydney, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
</tr>
<tr>
<td>TCP BBR</td>
<td>10</td>
<td>74.88</td>
<td>72.79</td>
<td>65.95</td>
</tr>
<tr>
<td>Copa</td>
<td>10</td>
<td>120.23</td>
<td>157.64</td>
<td>67.20</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>10</td>
<td>81.90</td>
<td>53.49</td>
<td>49.54</td>
</tr>
<tr>
<td>FillP</td>
<td>10</td>
<td>559.93</td>
<td>602.19</td>
<td>507.57</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>10</td>
<td>599.37</td>
<td>580.77</td>
<td>467.11</td>
</tr>
<tr>
<td>Indigo</td>
<td>10</td>
<td>144.03</td>
<td>142.56</td>
<td>128.71</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>10</td>
<td>3.26</td>
<td>2.59</td>
<td>1.16</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>10</td>
<td>463.19</td>
<td>22.99</td>
<td>32.27</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>10</td>
<td>224.50</td>
<td>132.70</td>
<td>79.44</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>10</td>
<td>54.73</td>
<td>52.29</td>
<td>36.07</td>
</tr>
<tr>
<td>SCReAM</td>
<td></td>
<td>0.22</td>
<td>0.22</td>
<td>0.22</td>
</tr>
<tr>
<td>Sprout</td>
<td>10</td>
<td>0.17</td>
<td>0.17</td>
<td>0.22</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>10</td>
<td>97.75</td>
<td>130.08</td>
<td>54.86</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>10</td>
<td>76.03</td>
<td>53.45</td>
<td>65.21</td>
</tr>
<tr>
<td>Verus</td>
<td>10</td>
<td>139.44</td>
<td>88.01</td>
<td>66.83</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>10</td>
<td>237.13</td>
<td>212.50</td>
<td>132.06</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>10</td>
<td>1.81</td>
<td>1.11</td>
<td>0.38</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

End at: 2018-07-26 04:56:17
Local clock offset: 0.2 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-07-26 09:20:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.85 Mbit/s
95th percentile per-packet one-way delay: 135.859 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 75.26 Mbit/s
95th percentile per-packet one-way delay: 135.893 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 70.16 Mbit/s
95th percentile per-packet one-way delay: 135.827 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 64.74 Mbit/s
95th percentile per-packet one-way delay: 135.744 ms
Loss rate: 3.17%
Run 2: Statistics of TCP BBR

Start at: 2018-07-26 05:23:08
End at: 2018-07-26 05:23:38
Local clock offset: -0.008 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 145.56 Mbit/s
95th percentile per-packet one-way delay: 136.908 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 73.69 Mbit/s
95th percentile per-packet one-way delay: 136.786 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 74.54 Mbit/s
95th percentile per-packet one-way delay: 137.047 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 69.43 Mbit/s
95th percentile per-packet one-way delay: 136.775 ms
Loss rate: 3.54%
Run 2: Report of TCP BBR — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 73.74 Mbit/s) — Flow 1 egress (mean 73.69 Mbit/s)
Flow 2 ingress (mean 74.58 Mbit/s) — Flow 2 egress (mean 74.54 Mbit/s)
Flow 3 ingress (mean 69.97 Mbit/s) — Flow 3 egress (mean 69.43 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 136.79 ms) — Flow 2 (95th percentile 137.05 ms) — Flow 3 (95th percentile 136.78 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-07-26 05:50:10
End at: 2018-07-26 05:50:40
Local clock offset: 1.812 ms
Remote clock offset: 0.129 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.15 Mbit/s
95th percentile per-packet one-way delay: 138.469 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 74.58 Mbit/s
95th percentile per-packet one-way delay: 138.375 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 72.90 Mbit/s
95th percentile per-packet one-way delay: 138.527 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 65.11 Mbit/s
95th percentile per-packet one-way delay: 138.462 ms
Loss rate: 3.38%
Run 3: Report of TCP BBR — Data Link

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

Legend:
- Flow 1 ingress (mean 74.77 Mbit/s)
- Flow 1 egress (mean 74.58 Mbit/s)
- Flow 2 ingress (mean 72.98 Mbit/s)
- Flow 2 egress (mean 72.90 Mbit/s)
- Flow 3 ingress (mean 65.73 Mbit/s)
- Flow 3 egress (mean 65.11 Mbit/s)
Run 4: Statistics of TCP BBR

Start at: 2018-07-26 06:16:57
End at: 2018-07-26 06:17:27
Local clock offset: -0.029 ms
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 145.26 Mbit/s
95th percentile per-packet one-way delay: 136.725 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 76.27 Mbit/s
95th percentile per-packet one-way delay: 136.759 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 72.33 Mbit/s
95th percentile per-packet one-way delay: 136.633 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.62 Mbit/s
95th percentile per-packet one-way delay: 136.684 ms
Loss rate: 3.32%
Run 4: Report of TCP BBR — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 76.29 Mbps)  Flow 1 egress (mean 76.27 Mbps)
Flow 2 ingress (mean 71.34 Mbps)  Flow 2 egress (mean 72.33 Mbps)
Flow 3 ingress (mean 65.00 Mbps)  Flow 3 egress (mean 64.62 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 136.76 ms)  Flow 2 (95th percentile 136.63 ms)  Flow 3 (95th percentile 136.68 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-07-26 06:43:46
End at: 2018-07-26 06:44:16
Local clock offset: 0.0 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 143.98 Mbit/s
95th percentile per-packet one-way delay: 136.591 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 71.95 Mbit/s
95th percentile per-packet one-way delay: 136.281 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 77.16 Mbit/s
95th percentile per-packet one-way delay: 136.647 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 64.98 Mbit/s
95th percentile per-packet one-way delay: 139.463 ms
Loss rate: 3.27%
Run 5: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 72.15 Mbps)**
- **Flow 1 egress (mean 71.95 Mbps)**
- **Flow 2 ingress (mean 77.31 Mbps)**
- **Flow 2 egress (mean 77.16 Mbps)**
- **Flow 3 ingress (mean 65.34 Mbps)**
- **Flow 3 egress (mean 64.98 Mbps)**

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

- **Flow 1 (95th percentile 136.28 ms)**
- **Flow 2 (95th percentile 136.65 ms)**
- **Flow 3 (95th percentile 139.46 ms)**
Run 6: Statistics of TCP BBR

Start at: 2018-07-26 07:10:00
End at: 2018-07-26 07:10:30
Local clock offset: 0.013 ms
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.79 Mbit/s
95th percentile per-packet one-way delay: 136.680 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 73.50 Mbit/s
95th percentile per-packet one-way delay: 136.654 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 69.95 Mbit/s
95th percentile per-packet one-way delay: 136.669 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 136.766 ms
Loss rate: 3.34%
Run 6: Report of TCP BBR — Data Link
Run 7: Statistics of TCP BBR

Start at: 2018-07-26 07:36:29
End at: 2018-07-26 07:36:59
Local clock offset: -0.026 ms
Remote clock offset: 0.298 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.78 Mbit/s
95th percentile per-packet one-way delay: 136.205 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 73.37 Mbit/s
95th percentile per-packet one-way delay: 136.174 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 70.07 Mbit/s
95th percentile per-packet one-way delay: 136.268 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 136.169 ms
Loss rate: 3.24%
Run 7: Report of TCP BBR — Data Link
Run 8: Statistics of TCP BBR

Start at: 2018-07-26 08:03:27
End at: 2018-07-26 08:03:57
Local clock offset: -0.231 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2018-07-26 09:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.87 Mbit/s
95th percentile per-packet one-way delay: 136.333 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 73.72 Mbit/s
95th percentile per-packet one-way delay: 136.317 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 70.01 Mbit/s
95th percentile per-packet one-way delay: 136.329 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 63.98 Mbit/s
95th percentile per-packet one-way delay: 136.394 ms
Loss rate: 3.34%
Run 8: Report of TCP BBR — Data Link

![Graph showing throughput and round-trip time over time for different flows.]
Run 9: Statistics of TCP BBR

Start at: 2018-07-26 08:30:04
End at: 2018-07-26 08:30:34
Local clock offset: -0.154 ms
Remote clock offset: -0.393 ms

# Below is generated by plot.py at 2018-07-26 09:22:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.29 Mbit/s
95th percentile per-packet one-way delay: 138.920 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 78.32 Mbit/s
95th percentile per-packet one-way delay: 138.455 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 76.32 Mbit/s
95th percentile per-packet one-way delay: 139.862 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 69.41 Mbit/s
95th percentile per-packet one-way delay: 137.051 ms
Loss rate: 3.55%
Run 9: Report of TCP BBR — Data Link

![Graph showing throughput and packet delay over time for different flows.]
Run 10: Statistics of TCP BBR

Start at: 2018-07-26 08:56:18
End at: 2018-07-26 08:56:48
Local clock offset: -0.131 ms
Remote clock offset: 0.393 ms

# Below is generated by plot.py at 2018-07-26 09:22:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.79 Mbit/s
95th percentile per-packet one-way delay: 136.500 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 78.14 Mbit/s
95th percentile per-packet one-way delay: 136.341 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 74.50 Mbit/s
95th percentile per-packet one-way delay: 136.513 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 68.77 Mbit/s
95th percentile per-packet one-way delay: 137.494 ms
Loss rate: 3.57%
Run 10: Report of TCP BBR — Data Link

[Graphs showing throughput and per-packet one-way delay over time for different flows with specified mean throughput and 95th percentile delay values.]
Run 1: Statistics of Copa

Start at: 2018-07-26 04:44:27
End at: 2018-07-26 04:44:57
Local clock offset: -0.134 ms
Remote clock offset: -0.38 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 286.09 Mbit/s
  95th percentile per-packet one-way delay: 178.757 ms
  Loss rate: 1.24%
-- Flow 1:
  Average throughput: 106.70 Mbit/s
  95th percentile per-packet one-way delay: 174.956 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 253.04 Mbit/s
  95th percentile per-packet one-way delay: 186.830 ms
  Loss rate: 1.77%
-- Flow 3:
  Average throughput: 38.44 Mbit/s
  95th percentile per-packet one-way delay: 147.130 ms
  Loss rate: 0.02%
Run 1: Report of Copa — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 106.06 Mbps)
- **Flow 1 egress** (mean 106.70 Mbps)
- **Flow 2 ingress** (mean 254.06 Mbps)
- **Flow 2 egress** (mean 253.04 Mbps)
- **Flow 3 ingress** (mean 38.56 Mbps)
- **Flow 3 egress** (mean 38.44 Mbps)

---

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

- **Flow 1** (95th percentile 174.96 ms)
- **Flow 2** (95th percentile 186.83 ms)
- **Flow 3** (95th percentile 147.13 ms)
Run 2: Statistics of Copa

Start at: 2018-07-26 05:11:50
End at: 2018-07-26 05:12:20
Local clock offset: 0.119 ms
Remote clock offset: 0.289 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.82 Mbit/s
95th percentile per-packet one-way delay: 169.354 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 186.06 Mbit/s
95th percentile per-packet one-way delay: 170.225 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 66.80 Mbit/s
95th percentile per-packet one-way delay: 165.609 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 64.85 Mbit/s
95th percentile per-packet one-way delay: 160.060 ms
Loss rate: 0.01%
Run 2: Report of Copa — Data Link

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

Start at: 2018-07-26 05:39:07
End at: 2018-07-26 05:39:37
Local clock offset: 0.019 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 250.82 Mbit/s
  95th percentile per-packet one-way delay: 173.459 ms
  Loss rate: 1.33%
-- Flow 1:
  Average throughput: 115.16 Mbit/s
  95th percentile per-packet one-way delay: 182.139 ms
  Loss rate: 0.45%
-- Flow 2:
  Average throughput: 165.28 Mbit/s
  95th percentile per-packet one-way delay: 172.714 ms
  Loss rate: 1.23%
-- Flow 3:
  Average throughput: 80.02 Mbit/s
  95th percentile per-packet one-way delay: 146.250 ms
  Loss rate: 5.38%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2018-07-26 06:05:56
End at: 2018-07-26 06:06:26
Local clock offset: -0.03 ms
Remote clock offset: -0.268 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.79 Mbit/s
95th percentile per-packet one-way delay: 170.120 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 88.09 Mbit/s
95th percentile per-packet one-way delay: 150.458 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 257.05 Mbit/s
95th percentile per-packet one-way delay: 174.472 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 16.50 Mbit/s
95th percentile per-packet one-way delay: 150.538 ms
Loss rate: 2.76%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2018-07-26 06:32:31
End at: 2018-07-26 06:33:01
Local clock offset: 0.218 ms
Remote clock offset: -0.278 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 203.73 Mbit/s
  95th percentile per-packet one-way delay: 175.558 ms
  Loss rate: 1.74%
-- Flow 1:
  Average throughput: 77.61 Mbit/s
  95th percentile per-packet one-way delay: 192.244 ms
  Loss rate: 1.02%
-- Flow 2:
  Average throughput: 92.75 Mbit/s
  95th percentile per-packet one-way delay: 156.094 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 205.65 Mbit/s
  95th percentile per-packet one-way delay: 176.458 ms
  Loss rate: 4.01%
Run 5: Report of Copa — Data Link

![Graph showing network throughput and packet one-way delay](image-url)
Run 6: Statistics of Copa

Start at: 2018-07-26 06:59:08
End at: 2018-07-26 06:59:38
Local clock offset: 0.01 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-07-26 09:30:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.89 Mbit/s
95th percentile per-packet one-way delay: 159.369 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 140.07 Mbit/s
95th percentile per-packet one-way delay: 159.131 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 95.28 Mbit/s
95th percentile per-packet one-way delay: 166.693 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 148.356 ms
Loss rate: 3.42%
Run 6: Report of Copa — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 139.77 Mbps)
Flow 1 egress (mean 140.07 Mbps)
Flow 2 ingress (mean 95.44 Mbps)
Flow 2 egress (mean 95.28 Mbps)
Flow 3 ingress (mean 91.38 Mbps)
Flow 3 egress (mean 90.95 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 159.13 ms)
Flow 2 (95th percentile 166.69 ms)
Flow 3 (95th percentile 148.36 ms)
Run 7: Statistics of Copa

Start at: 2018-07-26 07:25:46  
End at: 2018-07-26 07:26:16  
Local clock offset: -0.259 ms  
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-07-26 09:32:55  
# Datalink statistics

-- Total of 3 flows:

Average throughput: 250.58 Mbit/s
95th percentile per-packet one-way delay: 170.611 ms
Loss rate: 0.59%

-- Flow 1:

Average throughput: 192.55 Mbit/s
95th percentile per-packet one-way delay: 171.550 ms
Loss rate: 0.73%

-- Flow 2:

Average throughput: 76.05 Mbit/s
95th percentile per-packet one-way delay: 169.420 ms
Loss rate: 0.06%

-- Flow 3:

Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 146.411 ms
Loss rate: 0.38%
Run 7: Report of Copa — Data Link

![Graph showing throughput (Mbps) over time](image1)

- **Flow 1 ingress (mean 192.21 Mbps)**
- **Flow 1 egress (mean 192.55 Mbps)**
- **Flow 2 ingress (mean 75.05 Mbps)**
- **Flow 2 egress (mean 76.05 Mbps)**
- **Flow 3 ingress (mean 22.79 Mbps)**
- **Flow 3 egress (mean 23.34 Mbps)**


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

- **Flow 1 (95th percentile 171.55 ms)**
- **Flow 2 (95th percentile 169.42 ms)**
- **Flow 3 (95th percentile 146.41 ms)**
Run 8: Statistics of Copa

Start at: 2018-07-26 07:52:24
End at: 2018-07-26 07:52:54
Local clock offset: -0.059 ms
Remote clock offset: 0.278 ms

# Below is generated by plot.py at 2018-07-26 09:32:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.43 Mbit/s
95th percentile per-packet one-way delay: 161.616 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 76.66 Mbit/s
95th percentile per-packet one-way delay: 154.020 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 234.96 Mbit/s
95th percentile per-packet one-way delay: 165.087 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 55.20 Mbit/s
95th percentile per-packet one-way delay: 145.754 ms
Loss rate: 6.59%
Run 8: Report of Copa — Data Link

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

Start at: 2018-07-26 08:19:15
End at: 2018-07-26 08:19:45
Local clock offset: 0.047 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2018-07-26 09:38:50
# Datalink statistics
-- Total of 3 flows:
 Average throughput: 261.93 Mbit/s
95th percentile per-packet one-way delay: 169.030 ms
 Loss rate: 1.10%
-- Flow 1:
 Average throughput: 116.87 Mbit/s
95th percentile per-packet one-way delay: 175.041 ms
 Loss rate: 1.14%
-- Flow 2:
 Average throughput: 196.91 Mbit/s
95th percentile per-packet one-way delay: 164.961 ms
 Loss rate: 0.93%
-- Flow 3:
 Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 143.177 ms
 Loss rate: 2.29%
Run 9: Report of Copa — Data Link
Run 10: Statistics of Copa

Start at: 2018-07-26 08:45:51
End at: 2018-07-26 08:46:21
Local clock offset: 0.013 ms
Remote clock offset: 0.383 ms

# Below is generated by plot.py at 2018-07-26 09:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.46 Mbit/s
95th percentile per-packet one-way delay: 158.590 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 102.55 Mbit/s
95th percentile per-packet one-way delay: 145.527 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 138.24 Mbit/s
95th percentile per-packet one-way delay: 165.819 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 51.81 Mbit/s
95th percentile per-packet one-way delay: 155.954 ms
Loss rate: 0.00%
Run 10: Report of Copa — Data Link

---

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

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

---

43
Run 1: Statistics of TCP Cubic

Start at: 2018-07-26 05:00:44
End at: 2018-07-26 05:01:14
Local clock offset: 1.85 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-07-26 09:38:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 161.23 Mbit/s
  95th percentile per-packet one-way delay: 148.285 ms
  Loss rate: 1.57%
-- Flow 1:
  Average throughput: 84.31 Mbit/s
  95th percentile per-packet one-way delay: 148.547 ms
  Loss rate: 1.06%
-- Flow 2:
  Average throughput: 81.07 Mbit/s
  95th percentile per-packet one-way delay: 147.358 ms
  Loss rate: 1.55%
-- Flow 3:
  Average throughput: 72.51 Mbit/s
  95th percentile per-packet one-way delay: 149.725 ms
  Loss rate: 3.41%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2018-07-26 05:28:03
End at: 2018-07-26 05:28:33
Local clock offset: 0.093 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-07-26 09:38:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 159.94 Mbit/s
  95th percentile per-packet one-way delay: 147.110 ms
  Loss rate: 1.53%
-- Flow 1:
  Average throughput: 83.86 Mbit/s
  95th percentile per-packet one-way delay: 146.943 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 80.25 Mbit/s
  95th percentile per-packet one-way delay: 147.469 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 71.40 Mbit/s
  95th percentile per-packet one-way delay: 147.535 ms
  Loss rate: 3.40%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Start at: 2018-07-26 05:55:03
End at: 2018-07-26 05:55:33
Local clock offset: 0.041 ms
Remote clock offset: 0.418 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 148.77 Mbit/s
  95th percentile per-packet one-way delay: 151.106 ms
  Loss rate: 1.47%
-- Flow 1:
  Average throughput: 83.49 Mbit/s
  95th percentile per-packet one-way delay: 148.702 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 79.65 Mbit/s
  95th percentile per-packet one-way delay: 153.003 ms
  Loss rate: 1.66%
-- Flow 3:
  Average throughput: 38.33 Mbit/s
  95th percentile per-packet one-way delay: 148.150 ms
  Loss rate: 3.80%
Run 3: Report of TCP Cubic — Data Link
Run 4: Statistics of TCP Cubic

Start at: 2018-07-26 06:21:46
End at: 2018-07-26 06:22:16
Local clock offset: 0.028 ms
Remote clock offset: 0.442 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.87 Mbit/s
95th percentile per-packet one-way delay: 145.946 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 145.364 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 81.36 Mbit/s
95th percentile per-packet one-way delay: 146.569 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 72.24 Mbit/s
95th percentile per-packet one-way delay: 145.394 ms
Loss rate: 3.41%
Run 4: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress** (mean 84.21 Mbit/s)
- **Flow 1 egress** (mean 84.14 Mbit/s)
- **Flow 2 ingress** (mean 81.51 Mbit/s)
- **Flow 2 egress** (mean 81.36 Mbit/s)
- **Flow 3 ingress** (mean 72.76 Mbit/s)
- **Flow 3 egress** (mean 72.24 Mbit/s)

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

- **Flow 1 (95th percentile 145.36 ms)**
- **Flow 2 (95th percentile 146.57 ms)**
- **Flow 3 (95th percentile 145.39 ms)**
Run 5: Statistics of TCP Cubic

Start at: 2018-07-26 06:48:35
End at: 2018-07-26 06:49:05
Local clock offset: -0.078 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.79 Mbit/s
95th percentile per-packet one-way delay: 149.517 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 83.09 Mbit/s
95th percentile per-packet one-way delay: 148.557 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 13.83 Mbit/s
95th percentile per-packet one-way delay: 145.618 ms
Loss rate: 6.63%
-- Flow 3:
Average throughput: 70.37 Mbit/s
95th percentile per-packet one-way delay: 160.755 ms
Loss rate: 3.50%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-07-26 07:14:50
End at: 2018-07-26 07:15:20
Local clock offset: ~0.202 ms
Remote clock offset: ~0.02 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.66 Mbit/s
95th percentile per-packet one-way delay: 147.339 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 72.16 Mbit/s
95th percentile per-packet one-way delay: 147.663 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 17.00 Mbit/s
95th percentile per-packet one-way delay: 138.407 ms
Loss rate: 6.08%
-- Flow 3:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 136.416 ms
Loss rate: 12.71%
Run 6: Report of TCP Cubic — Data Link

![Graph of Throughput (Mbps) vs Time (s)]

- Flow 1 ingress (mean 72.04 Mbps)
- Flow 1 egress (mean 72.16 Mbps)
- Flow 2 ingress (mean 17.86 Mbps)
- Flow 2 egress (mean 17.00 Mbps)
- Flow 3 ingress (mean 0.92 Mbps)
- Flow 3 egress (mean 0.83 Mbps)

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

- Flow 1 (95th percentile 147.66 ms)
- Flow 2 (95th percentile 138.41 ms)
- Flow 3 (95th percentile 136.42 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-07-26 07:41:20
End at: 2018-07-26 07:41:50
Local clock offset: -0.153 ms
Remote clock offset: -0.44 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 152.31 Mbit/s
  95th percentile per-packet one-way delay: 149.335 ms
  Loss rate: 1.49%
-- Flow 1:
  Average throughput: 83.51 Mbit/s
  95th percentile per-packet one-way delay: 149.554 ms
  Loss rate: 0.99%
-- Flow 2:
  Average throughput: 80.17 Mbit/s
  95th percentile per-packet one-way delay: 149.328 ms
  Loss rate: 1.55%
-- Flow 3:
  Average throughput: 48.30 Mbit/s
  95th percentile per-packet one-way delay: 147.901 ms
  Loss rate: 3.90%
Run 7: Report of TCP Cubic — Data Link

![Graph showing throughput and per-packet one-way delay over time. The graphs illustrate the performance of different flows and show variations in throughput and delay throughout the simulation period.]
Run 8: Statistics of TCP Cubic

Start at: 2018-07-26 08:08:17
End at: 2018-07-26 08:08:47
Local clock offset: 0.106 ms
Remote clock offset: -0.479 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.73 Mbit/s
95th percentile per-packet one-way delay: 148.464 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 77.68 Mbit/s
95th percentile per-packet one-way delay: 147.788 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 43.06 Mbit/s
95th percentile per-packet one-way delay: 150.219 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 44.56 Mbit/s
95th percentile per-packet one-way delay: 149.710 ms
Loss rate: 3.71%
Run 9: Statistics of TCP Cubic

Start at: 2018-07-26 08:34:54
End at: 2018-07-26 08:35:24
Local clock offset: 0.119 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 104.70 Mbit/s
   95th percentile per-packet one-way delay: 148.235 ms
   Loss rate: 1.81%
-- Flow 1:
   Average throughput: 83.02 Mbit/s
   95th percentile per-packet one-way delay: 148.190 ms
   Loss rate: 1.01%
-- Flow 2:
   Average throughput: 16.08 Mbit/s
   95th percentile per-packet one-way delay: 147.072 ms
   Loss rate: 6.35%
-- Flow 3:
   Average throughput: 33.72 Mbit/s
   95th percentile per-packet one-way delay: 148.943 ms
   Loss rate: 3.21%
Run 9: Report of TCP Cubic — Data Link

![Graph of Throughput (Mbps) over Time (s)]

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

Legend:
- Flow 1 ingress (mean 83.12 Mbit/s)
- Flow 1 egress (mean 83.02 Mbit/s)
- Flow 2 ingress (mean 16.94 Mbit/s)
- Flow 2 egress (mean 16.08 Mbit/s)
- Flow 3 ingress (mean 33.89 Mbit/s)
- Flow 3 egress (mean 33.72 Mbit/s)
Run 10: Statistics of TCP Cubic

Start at: 2018-07-26 09:01:10
End at: 2018-07-26 09:01:40
Local clock offset: -0.059 ms
Remote clock offset: 0.413 ms

# Below is generated by plot.py at 2018-07-26 09:38:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.66 Mbit/s
95th percentile per-packet one-way delay: 146.215 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 83.73 Mbit/s
95th percentile per-packet one-way delay: 146.570 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 42.44 Mbit/s
95th percentile per-packet one-way delay: 144.831 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 144.078 ms
Loss rate: 3.67%
Run 10: Report of TCP Cubic — Data Link
Run 1: Statistics of FillP

Start at: 2018-07-26 04:37:53
End at: 2018-07-26 04:38:23
Local clock offset: -0.033 ms
Remote clock offset: 0.391 ms

# Below is generated by plot.py at 2018-07-26 10:07:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1283.86 Mbit/s
95th percentile per-packet one-way delay: 217.474 ms
Loss rate: 4.85%
-- Flow 1:
Average throughput: 673.05 Mbit/s
95th percentile per-packet one-way delay: 222.777 ms
Loss rate: 4.66%
-- Flow 2:
Average throughput: 670.32 Mbit/s
95th percentile per-packet one-way delay: 206.616 ms
Loss rate: 4.78%
-- Flow 3:
Average throughput: 514.27 Mbit/s
95th percentile per-packet one-way delay: 220.811 ms
Loss rate: 5.80%
Run 1: Report of FillP — Data Link

![Graph showing throughput and packet delivery delay over time for various traffic flows.](image-url)
Run 2: Statistics of FillP

Start at: 2018-07-26 05:05:01
End at: 2018-07-26 05:05:31
Local clock offset: 1.765 ms
Remote clock offset: 0.313 ms

# Below is generated by plot.py at 2018-07-26 10:07:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1219.82 Mbit/s
95th percentile per-packet one-way delay: 292.772 ms
Loss rate: 5.69%
-- Flow 1:
Average throughput: 626.47 Mbit/s
95th percentile per-packet one-way delay: 267.145 ms
Loss rate: 7.31%
-- Flow 2:
Average throughput: 631.70 Mbit/s
95th percentile per-packet one-way delay: 330.572 ms
Loss rate: 4.06%
-- Flow 3:
Average throughput: 535.50 Mbit/s
95th percentile per-packet one-way delay: 278.885 ms
Loss rate: 3.57%
Run 2: Report of FillP — Data Link
Run 3: Statistics of FillP

Start at: 2018-07-26 05:32:21
End at: 2018-07-26 05:32:51
Local clock offset: 0.172 ms
Remote clock offset: 0.306 ms

# Below is generated by plot.py at 2018-07-26 10:08:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1292.84 Mbit/s
95th percentile per-packet one-way delay: 226.723 ms
Loss rate: 4.22%
-- Flow 1:
Average throughput: 714.32 Mbit/s
95th percentile per-packet one-way delay: 219.002 ms
Loss rate: 4.17%
-- Flow 2:
Average throughput: 628.62 Mbit/s
95th percentile per-packet one-way delay: 239.556 ms
Loss rate: 4.64%
-- Flow 3:
Average throughput: 498.72 Mbit/s
95th percentile per-packet one-way delay: 158.104 ms
Loss rate: 3.36%
Run 3: Report of FillP — Data Link

![Graph 1: Throughput (Mb/s)](image1)

- Flow 1 Ingress (mean 738.59 Mb/s)
- Flow 1 Egress (mean 714.32 Mb/s)
- Flow 2 Ingress (mean 650.14 Mb/s)
- Flow 2 Egress (mean 628.62 Mb/s)
- Flow 3 Ingress (mean 501.89 Mb/s)
- Flow 3 Egress (mean 498.72 Mb/s)

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

- Flow 1 (95th percentile 219.00 ms)
- Flow 2 (95th percentile 239.56 ms)
- Flow 3 (95th percentile 158.10 ms)
Run 4: Statistics of FillP

Start at: 2018-07-26 05:59:22
End at: 2018-07-26 05:59:52
Local clock offset: 0.057 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-07-26 10:08:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1163.61 Mbit/s
  95th percentile per-packet one-way delay: 306.102 ms
  Loss rate: 7.41%
-- Flow 1:
  Average throughput: 621.36 Mbit/s
  95th percentile per-packet one-way delay: 328.692 ms
  Loss rate: 8.94%
-- Flow 2:
  Average throughput: 621.40 Mbit/s
  95th percentile per-packet one-way delay: 277.622 ms
  Loss rate: 4.95%
-- Flow 3:
  Average throughput: 403.77 Mbit/s
  95th percentile per-packet one-way delay: 271.840 ms
  Loss rate: 7.50%
Run 4: Report of FillP — Data Link
Run 5: Statistics of FillP

Start at: 2018-07-26 06:26:04
End at: 2018-07-26 06:26:34
Local clock offset: 0.059 ms
Remote clock offset: 0.445 ms

# Below is generated by plot.py at 2018-07-26 10:08:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 925.01 Mbit/s
95th percentile per-packet one-way delay: 330.969 ms
Loss rate: 5.86%
-- Flow 1:
Average throughput: 378.66 Mbit/s
95th percentile per-packet one-way delay: 343.183 ms
Loss rate: 4.56%
-- Flow 2:
Average throughput: 523.09 Mbit/s
95th percentile per-packet one-way delay: 333.128 ms
Loss rate: 7.58%
-- Flow 3:
Average throughput: 614.84 Mbit/s
95th percentile per-packet one-way delay: 250.279 ms
Loss rate: 5.24%
Run 5: Report of FillP — Data Link

![Throughput and Delay Graphs](image-url)
Run 6: Statistics of FillP

Start at: 2018-07-26 06:52:49
End at: 2018-07-26 06:53:19
Local clock offset: 0.125 ms
Remote clock offset: -0.354 ms

# Below is generated by plot.py at 2018-07-26 10:08:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 708.67 Mbit/s
  95th percentile per-packet one-way delay: 333.353 ms
  Loss rate: 7.85%
-- Flow 1:
  Average throughput: 115.11 Mbit/s
  95th percentile per-packet one-way delay: 372.245 ms
  Loss rate: 6.24%
-- Flow 2:
  Average throughput: 608.44 Mbit/s
  95th percentile per-packet one-way delay: 327.686 ms
  Loss rate: 8.22%
-- Flow 3:
  Average throughput: 584.32 Mbit/s
  95th percentile per-packet one-way delay: 332.075 ms
  Loss rate: 8.01%
Run 6: Report of FillP — Data Link

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

- **Flow 1 Ingress (mean 121.66 Mb/s)**
- **Flow 1 Egress (mean 115.11 Mb/s)**
- **Flow 2 Ingress (mean 653.83 Mb/s)**
- **Flow 2 Egress (mean 608.44 Mb/s)**
- **Flow 3 Ingress (mean 617.89 Mb/s)**
- **Flow 3 Egress (mean 584.32 Mb/s)**

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

- **Flow 1 (95th percentile 372.25 ms)**
- **Flow 2 (95th percentile 327.69 ms)**
- **Flow 3 (95th percentile 332.07 ms)**

75
Run 7: Statistics of FillP

Start at: 2018-07-26 07:19:06
End at: 2018-07-26 07:19:36
Local clock offset: -0.13 ms
Remote clock offset: 0.329 ms

# Below is generated by plot.py at 2018-07-26 10:08:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1144.75 Mbit/s
95th percentile per-packet one-way delay: 251.134 ms
Loss rate: 7.06%
-- Flow 1:
Average throughput: 607.40 Mbit/s
95th percentile per-packet one-way delay: 261.366 ms
Loss rate: 7.29%
-- Flow 2:
Average throughput: 565.78 Mbit/s
95th percentile per-packet one-way delay: 250.884 ms
Loss rate: 7.97%
-- Flow 3:
Average throughput: 500.20 Mbit/s
95th percentile per-packet one-way delay: 198.266 ms
Loss rate: 3.97%
Run 7: Report of FillP — Data Link

![Graph 1: Throughput vs Time]
- Flow 1 Ingress (mean 649.26 Mbit/s)
- Flow 1 Egress (mean 607.40 Mbit/s)
- Flow 2 Ingress (mean 606.29 Mbit/s)
- Flow 2 Egress (mean 565.78 Mbit/s)
- Flow 3 Ingress (mean 506.50 Mbit/s)
- Flow 3 Egress (mean 500.20 Mbit/s)

![Graph 2: Per-packet one-way delay vs Time]
- Flow 1 (95th percentile 261.37 ms)
- Flow 2 (95th percentile 250.88 ms)
- Flow 3 (95th percentile 198.27 ms)
Run 8: Statistics of FillP

Start at: 2018-07-26 07:45:39
End at: 2018-07-26 07:46:09
Local clock offset: -0.191 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-07-26 10:10:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1207.40 Mbit/s
95th percentile per-packet one-way delay: 304.417 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 649.39 Mbit/s
95th percentile per-packet one-way delay: 307.300 ms
Loss rate: 4.22%
-- Flow 2:
Average throughput: 622.19 Mbit/s
95th percentile per-packet one-way delay: 304.525 ms
Loss rate: 2.85%
-- Flow 3:
Average throughput: 448.41 Mbit/s
95th percentile per-packet one-way delay: 292.041 ms
Loss rate: 9.11%
Run 8: Report of FillP — Data Link

Throughput (Mbps):

Time (s):

Flow 1 Ingress (mean 672.03 Mbps) — Flow 1 Egress (mean 649.39 Mbps)
Flow 2 Ingress (mean 633.52 Mbps) — Flow 2 Egress (mean 622.19 Mbps)
Flow 3 Ingress (mean 479.69 Mbps) — Flow 3 Egress (mean 448.41 Mbps)

Packet one-way delay (ms):

Time (s):

Flow 1 (95th percentile 307.30 ms) — Flow 2 (95th percentile 304.52 ms) — Flow 3 (95th percentile 292.04 ms)
Run 9: Statistics of FillP

Start at: 2018-07-26 08:12:33
End at: 2018-07-26 08:13:03
Local clock offset: 0.027 ms
Remote clock offset: -0.447 ms

# Below is generated by plot.py at 2018-07-26 10:23:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1110.93 Mbit/s
  95th percentile per-packet one-way delay: 284.158 ms
  Loss rate: 6.46%
-- Flow 1:
  Average throughput: 557.48 Mbit/s
  95th percentile per-packet one-way delay: 347.363 ms
  Loss rate: 8.05%
-- Flow 2:
  Average throughput: 599.67 Mbit/s
  95th percentile per-packet one-way delay: 287.559 ms
  Loss rate: 4.80%
-- Flow 3:
  Average throughput: 478.98 Mbit/s
  95th percentile per-packet one-way delay: 227.795 ms
  Loss rate: 4.81%
Run 9: Report of FillP — Data Link

**Graph 1:**
Throughput (Mbps)

- Flow 1 Ingress (mean 600.68 Mbps)
- Flow 1 Egress (mean 557.48 Mbps)
- Flow 2 Ingress (mean 621.19 Mbps)
- Flow 2 Egress (mean 599.67 Mbps)
- Flow 3 Ingress (mean 489.27 Mbps)
- Flow 3 Egress (mean 478.98 Mbps)

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

- Flow 1 (95th percentile 347.36 ms)
- Flow 2 (95th percentile 287.56 ms)
- Flow 3 (95th percentile 227.79 ms)
Run 10: Statistics of FillP

Start at: 2018-07-26 08:39:11
End at: 2018-07-26 08:39:41
Local clock offset: -0.044 ms
Remote clock offset: 0.357 ms

# Below is generated by plot.py at 2018-07-26 10:31:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1182.15 Mbit/s
95th percentile per-packet one-way delay: 256.253 ms
Loss rate: 4.08%
-- Flow 1:
Average throughput: 656.04 Mbit/s
95th percentile per-packet one-way delay: 258.020 ms
Loss rate: 3.86%
-- Flow 2:
Average throughput: 550.67 Mbit/s
95th percentile per-packet one-way delay: 259.714 ms
Loss rate: 4.91%
-- Flow 3:
Average throughput: 496.70 Mbit/s
95th percentile per-packet one-way delay: 158.743 ms
Loss rate: 3.07%
Run 10: Report of FillIP — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress: mean 675.99 Mbps
  - Flow 1 egress: mean 656.04 Mbps
  - Flow 2 ingress: mean 571.21 Mbps
  - Flow 2 egress: mean 550.67 Mbps
  - Flow 3 ingress: mean 498.33 Mbps
  - Flow 3 egress: mean 496.70 Mbps

- **Per-packet round-trip delay (ms)**
  - Flow 1: 95th percentile 258.02 ms
  - Flow 2: 95th percentile 259.71 ms
  - Flow 3: 95th percentile 158.74 ms
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-26 04:50:27
End at: 2018-07-26 04:50:57
Local clock offset: 0.019 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-07-26 10:38:35
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 1249.53 Mbit/s
   95th percentile per-packet one-way delay: 301.617 ms
   Loss rate: 2.48%

-- Flow 1:
   Average throughput: 679.78 Mbit/s
   95th percentile per-packet one-way delay: 308.385 ms
   Loss rate: 1.76%

-- Flow 2:
   Average throughput: 617.27 Mbit/s
   95th percentile per-packet one-way delay: 299.053 ms
   Loss rate: 3.39%

-- Flow 3:
   Average throughput: 494.44 Mbit/s
   95th percentile per-packet one-way delay: 146.396 ms
   Loss rate: 3.17%
Run 1: Report of FillP-Sheep — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 Ingress (mean 685.68 Mbps)
  - Flow 1 Egress (mean 679.78 Mbps)
  - Flow 2 Ingress (mean 630.61 Mbps)
  - Flow 2 Egress (mean 617.23 Mbps)
  - Flow 3 Ingress (mean 496.51 Mbps)
  - Flow 3 Egress (mean 494.44 Mbps)

- **Packet Delay (ms)**
  - Flow 1 (95th percentile 308.38 ms)
  - Flow 2 (95th percentile 299.05 ms)
  - Flow 3 (95th percentile 144.40 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-26 05:17:48
End at: 2018-07-26 05:18:18
Local clock offset: -0.146 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2018-07-26 10:38:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1229.17 Mbit/s
95th percentile per-packet one-way delay: 231.511 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 667.60 Mbit/s
95th percentile per-packet one-way delay: 233.597 ms
Loss rate: 3.00%
-- Flow 2:
Average throughput: 613.43 Mbit/s
95th percentile per-packet one-way delay: 224.553 ms
Loss rate: 2.80%
-- Flow 3:
Average throughput: 477.95 Mbit/s
95th percentile per-packet one-way delay: 186.231 ms
Loss rate: 4.19%
Run 2: Report of FillP-Sheep — Data Link

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

- Flow 1 Ingress (mean 682.34 Mbit/s)
- Flow 1 Egress (mean 667.80 Mbit/s)
- Flow 2 Ingress (mean 622.59 Mbit/s)
- Flow 2 Egress (mean 613.43 Mbit/s)
- Flow 3 Ingress (mean 485.22 Mbit/s)
- Flow 3 Egress (mean 477.95 Mbit/s)

![Graph showing packet loss rate over time.]

- Flow 1 (95th percentile 233.60 ms)
- Flow 2 (95th percentile 224.55 ms)
- Flow 3 (95th percentile 186.23 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-26 05:44:58
End at: 2018-07-26 05:45:28
Local clock offset: 0.173 ms
Remote clock offset: -0.261 ms

# Below is generated by plot.py at 2018-07-26 10:40:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1275.80 Mbit/s
95th percentile per-packet one-way delay: 333.089 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 709.08 Mbit/s
95th percentile per-packet one-way delay: 361.122 ms
Loss rate: 2.64%
-- Flow 2:
Average throughput: 609.45 Mbit/s
95th percentile per-packet one-way delay: 265.439 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 501.55 Mbit/s
95th percentile per-packet one-way delay: 215.497 ms
Loss rate: 4.28%
Run 3: Report of FillP-Sheep — Data Link

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

Start at: 2018-07-26 06:11:53
End at: 2018-07-26 06:12:23
Local clock offset: -0.041 ms
Remote clock offset: 0.465 ms

# Below is generated by plot.py at 2018-07-26 10:40:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1237.90 Mbit/s
95th percentile per-packet one-way delay: 302.407 ms
Loss rate: 4.47%
-- Flow 1:
Average throughput: 668.34 Mbit/s
95th percentile per-packet one-way delay: 324.234 ms
Loss rate: 5.78%
-- Flow 2:
Average throughput: 658.36 Mbit/s
95th percentile per-packet one-way delay: 263.149 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 410.96 Mbit/s
95th percentile per-packet one-way delay: 278.263 ms
Loss rate: 4.68%
Run 4: Report of FillP-Sheep — Data Link

![Graph of Throughput vs. Time](image1)

![Graph of Packet inter-packet delay vs. Time](image2)
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-26 06:38:24
End at: 2018-07-26 06:38:54
Local clock offset: -0.05 ms
Remote clock offset: 0.08 ms

# Below is generated by plot.py at 2018-07-26 10:43:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1312.93 Mbit/s
95th percentile per-packet one-way delay: 292.965 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 744.48 Mbit/s
95th percentile per-packet one-way delay: 302.336 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 629.93 Mbit/s
95th percentile per-packet one-way delay: 288.453 ms
Loss rate: 3.30%
-- Flow 3:
Average throughput: 464.05 Mbit/s
95th percentile per-packet one-way delay: 184.490 ms
Loss rate: 7.07%
Run 5: Report of FillP-Sheep — Data Link

[Graph 1: Throughput (Mbps)]

- Flow 1 Ingress (mean 749.53 Mbps)
- Flow 1 Egress (mean 744.48 Mbps)
- Flow 2 Ingress (mean 642.46 Mbps)
- Flow 2 Egress (mean 629.93 Mbps)
- Flow 3 Ingress (mean 485.51 Mbps)
- Flow 3 Egress (mean 464.05 Mbps)

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

- Flow 1 (95th percentile 302.34 ms)
- Flow 2 (95th percentile 288.45 ms)
- Flow 3 (95th percentile 184.49 ms)
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-26 07:05:03
End at: 2018-07-26 07:05:33
Local clock offset: -0.22 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-26 10:43:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1085.04 Mbit/s
95th percentile per-packet one-way delay: 221.277 ms
Loss rate: 4.52%
-- Flow 1:
Average throughput: 583.35 Mbit/s
95th percentile per-packet one-way delay: 219.339 ms
Loss rate: 3.80%
-- Flow 2:
Average throughput: 525.71 Mbit/s
95th percentile per-packet one-way delay: 228.340 ms
Loss rate: 5.94%
-- Flow 3:
Average throughput: 474.69 Mbit/s
95th percentile per-packet one-way delay: 180.073 ms
Loss rate: 3.98%
Run 6: Report of FillP-Sheep — Data Link

---

**Throughput (Mbps)**

- Blue dashed line: Flow 1 ingress (mean 600.62 Mbps)
- Blue solid line: Flow 1 egress (mean 583.35 Mbps)
- Green dashed line: Flow 2 ingress (mean 559.89 Mbps)
- Green solid line: Flow 2 egress (mean 525.71 Mbps)
- Red dashed line: Flow 3 ingress (mean 480.75 Mbps)
- Red solid line: Flow 3 egress (mean 474.69 Mbps)

**Packet delay (ms)**

- Blue line: Flow 1 (95th percentile 219.34 ms)
- Green line: Flow 2 (95th percentile 228.34 ms)
- Red line: Flow 3 (95th percentile 180.07 ms)

---

95
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-26 07:31:40
End at: 2018-07-26 07:32:10
Local clock offset: 0.075 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-07-26 10:57:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1109.21 Mbit/s
95th percentile per-packet one-way delay: 254.250 ms
Loss rate: 3.80%
-- Flow 1:
Average throughput: 603.81 Mbit/s
95th percentile per-packet one-way delay: 278.562 ms
Loss rate: 4.74%
-- Flow 2:
Average throughput: 548.44 Mbit/s
95th percentile per-packet one-way delay: 217.444 ms
Loss rate: 2.39%
-- Flow 3:
Average throughput: 438.19 Mbit/s
95th percentile per-packet one-way delay: 158.888 ms
Loss rate: 3.34%
Run 7: Report of FillP-Sheep — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 628.10 Mbit/s)
Flow 1 egress (mean 603.81 Mbit/s)
Flow 2 ingress (mean 553.86 Mbit/s)
Flow 2 egress (mean 548.44 Mbit/s)
Flow 3 ingress (mean 440.80 Mbit/s)
Flow 3 egress (mean 438.19 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 278.56 ms)
Flow 2 (95th percentile 217.44 ms)
Flow 3 (95th percentile 158.89 ms)
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-26 07:58:13
End at: 2018-07-26 07:58:43
Local clock offset: 0.025 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2018-07-26 11:05:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 1108.30 Mbit/s
  95th percentile per-packet one-way delay: 282.145 ms
  Loss rate: 5.59%
-- Flow 1:
  Average throughput: 605.74 Mbit/s
  95th percentile per-packet one-way delay: 247.117 ms
  Loss rate: 6.58%
-- Flow 2:
  Average throughput: 549.32 Mbit/s
  95th percentile per-packet one-way delay: 284.838 ms
  Loss rate: 4.59%
-- Flow 3:
  Average throughput: 426.62 Mbit/s
  95th percentile per-packet one-way delay: 323.893 ms
  Loss rate: 3.76%
Run 8: Report of FillP-Sheep — Data Link

![Graph showing network throughput and packet delay]

Throughput (Mbps/s)

Time (s)

0 5 10 15 20 25 30

0 200 400 600 800 1000

Flow 1 ingress (mean 642.48 Mbps/s)  Flow 1 egress (mean 605.74 Mbps/s)
Flow 2 ingress (mean 567.84 Mbps/s)  Flow 2 egress (mean 549.32 Mbps/s)
Flow 3 ingress (mean 430.93 Mbps/s)  Flow 3 egress (mean 426.62 Mbps/s)

Packet delay (ms)

Time (s)

0 5 10 15 20 25 30

0 150 200 250 300

Flow 1 (95th percentile 247.12 ms)  Flow 2 (95th percentile 284.84 ms)  Flow 3 (95th percentile 323.89 ms)
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-26 08:25:18
End at: 2018-07-26 08:25:48
Local clock offset: -0.278 ms
Remote clock offset: 0.268 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1039.49 Mbit/s
95th percentile per-packet one-way delay: 260.947 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 575.58 Mbit/s
95th percentile per-packet one-way delay: 249.038 ms
Loss rate: 6.67%
-- Flow 2:
Average throughput: 481.10 Mbit/s
95th percentile per-packet one-way delay: 293.116 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 445.61 Mbit/s
95th percentile per-packet one-way delay: 178.750 ms
Loss rate: 4.09%
Run 9: Report of FillP-Sheep — Data Link

![Graph of Throughput (Mbps) vs Time (s)](image1)

- Flow 1 ingress (mean 611.51 Mbps)
- Flow 1 egress (mean 575.58 Mbps)
- Flow 2 ingress (mean 513.86 Mbps)
- Flow 2 egress (mean 481.10 Mbps)
- Flow 3 ingress (mean 451.82 Mbps)
- Flow 3 egress (mean 445.61 Mbps)

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

- Flow 1 (95th percentile 249.04 ms)
- Flow 2 (95th percentile 293.12 ms)
- Flow 3 (95th percentile 178.75 ms)
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-26 08:51:38
End at: 2018-07-26 08:52:08
Local clock offset: 0.009 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 711.49 Mbit/s
95th percentile per-packet one-way delay: 352.550 ms
Loss rate: 11.29%
-- Flow 1:
Average throughput: 155.98 Mbit/s
95th percentile per-packet one-way delay: 399.085 ms
Loss rate: 13.24%
-- Flow 2:
Average throughput: 574.64 Mbit/s
95th percentile per-packet one-way delay: 274.129 ms
Loss rate: 11.81%
-- Flow 3:
Average throughput: 537.08 Mbit/s
95th percentile per-packet one-way delay: 231.253 ms
Loss rate: 8.25%
Run 10: Report of FillIP-Sheep — Data Link

![Graph of Throughput and Delay](image)

**Throughput (Mbps):**
- Flow 1 Ingress (mean 178.16 Mbps)
- Flow 1 Egress (mean 135.98 Mbps)
- Flow 2 Ingress (mean 642.65 Mbps)
- Flow 2 Egress (mean 574.64 Mbps)
- Flow 3 Ingress (mean 569.33 Mbps)
- Flow 3 Egress (mean 537.08 Mbps)

**Delay (ms):**
- Flow 1 (95th percentile 399.08 ms)
- Flow 2 (95th percentile 274.13 ms)
- Flow 3 (95th percentile 231.25 ms)
Run 1: Statistics of Indigo

Start at: 2018-07-26 04:34:59
End at: 2018-07-26 04:35:29
Local clock offset: -0.309 ms
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 303.80 Mbit/s
  95th percentile per-packet one-way delay: 142.259 ms
  Loss rate: 1.52%
-- Flow 1:
  Average throughput: 173.55 Mbit/s
  95th percentile per-packet one-way delay: 140.007 ms
  Loss rate: 0.85%
-- Flow 2:
  Average throughput: 126.87 Mbit/s
  95th percentile per-packet one-way delay: 143.656 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 132.59 Mbit/s
  95th percentile per-packet one-way delay: 146.967 ms
  Loss rate: 4.06%
Run 1: Report of Indigo — Data Link

![Graph showing throughput and per-packet one-way delay]
Run 2: Statistics of Indigo

Start at: 2018-07-26 05:02:09
End at: 2018-07-26 05:02:39
Local clock offset: 1.817 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.68 Mbit/s
95th percentile per-packet one-way delay: 142.322 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 133.04 Mbit/s
95th percentile per-packet one-way delay: 141.649 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 127.02 Mbit/s
95th percentile per-packet one-way delay: 143.383 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 111.12 Mbit/s
95th percentile per-packet one-way delay: 141.949 ms
Loss rate: 3.83%
Run 2: Report of Indigo — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 133.13 Mbps)  Flow 1 egress (mean 133.04 Mbps)
Flow 2 ingress (mean 127.24 Mbps)  Flow 2 egress (mean 127.02 Mbps)
Flow 3 ingress (mean 112.25 Mbps)  Flow 3 egress (mean 111.12 Mbps)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 141.65 ms)  Flow 2 (95th percentile 143.38 ms)  Flow 3 (95th percentile 141.95 ms)
Run 3: Statistics of Indigo

Start at: 2018-07-26 05:29:29
End at: 2018-07-26 05:29:59
Local clock offset: 0.003 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.41 Mbit/s
95th percentile per-packet one-way delay: 138.722 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 132.68 Mbit/s
95th percentile per-packet one-way delay: 137.188 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 124.99 Mbit/s
95th percentile per-packet one-way delay: 139.662 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 152.40 Mbit/s
95th percentile per-packet one-way delay: 142.316 ms
Loss rate: 3.16%
Run 3: Report of Indigo — Data Link
Run 4: Statistics of Indigo

Start at: 2018-07-26 05:56:28  
End at: 2018-07-26 05:56:58  
Local clock offset: -0.053 ms  
Remote clock offset: 0.428 ms  

# Below is generated by plot.py at 2018-07-26 11:08:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 282.60 Mbit/s  
95th percentile per-packet one-way delay: 139.208 ms  
Loss rate: 1.51%  
-- Flow 1:  
Average throughput: 132.85 Mbit/s  
95th percentile per-packet one-way delay: 138.877 ms  
Loss rate: 0.98%  
-- Flow 2:  
Average throughput: 173.22 Mbit/s  
95th percentile per-packet one-way delay: 138.677 ms  
Loss rate: 1.45%  
-- Flow 3:  
Average throughput: 109.72 Mbit/s  
95th percentile per-packet one-way delay: 141.496 ms  
Loss rate: 3.65%
Run 4: Report of Indigo — Data Link

[Graph showing throughput and packet delay over time for different flows]
Run 5: Statistics of Indigo

Start at: 2018-07-26 06:23:12
End at: 2018-07-26 06:23:42
Local clock offset: 0.048 ms
Remote clock offset: -0.323 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.21 Mbit/s
95th percentile per-packet one-way delay: 142.087 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 135.56 Mbit/s
95th percentile per-packet one-way delay: 140.684 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 129.79 Mbit/s
95th percentile per-packet one-way delay: 142.255 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 156.26 Mbit/s
95th percentile per-packet one-way delay: 144.434 ms
Loss rate: 3.40%
Run 5: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 135.62 Mbps)
- Flow 1 egress (mean 135.56 Mbps)
- Flow 2 ingress (mean 129.96 Mbps)
- Flow 2 egress (mean 129.79 Mbps)
- Flow 3 ingress (mean 157.29 Mbps)
- Flow 3 egress (mean 156.26 Mbps)

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

- Flow 1 (95th percentile 140.68 ms)
- Flow 2 (95th percentile 142.25 ms)
- Flow 3 (95th percentile 144.43 ms)
Run 6: Statistics of Indigo

Start at: 2018-07-26 06:49:58
End at: 2018-07-26 06:50:28
Local clock offset: -0.131 ms
Remote clock offset: -0.343 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.21 Mbit/s
95th percentile per-packet one-way delay: 138.552 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 131.92 Mbit/s
95th percentile per-packet one-way delay: 138.320 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 128.26 Mbit/s
95th percentile per-packet one-way delay: 138.598 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 110.80 Mbit/s
95th percentile per-packet one-way delay: 139.119 ms
Loss rate: 3.69%
Run 6: Report of Indigo — Data Link
Run 7: Statistics of Indigo

Start at: 2018-07-26 07:16:11
End at: 2018-07-26 07:16:41
Local clock offset: 0.116 ms
Remote clock offset: -0.425 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 308.74 Mbit/s
  95th percentile per-packet one-way delay: 140.872 ms
  Loss rate: 1.46%
-- Flow 1:
  Average throughput: 173.14 Mbit/s
  95th percentile per-packet one-way delay: 139.916 ms
  Loss rate: 0.84%
-- Flow 2:
  Average throughput: 124.86 Mbit/s
  95th percentile per-packet one-way delay: 141.348 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 152.40 Mbit/s
  95th percentile per-packet one-way delay: 143.175 ms
  Loss rate: 3.39%
Run 7: Report of Indigo — Data Link

![Throughput Graph](image)

![Per-packet one-way delay Graph](image)
Run 8: Statistics of Indigo

Start at: 2018-07-26 07:42:45
End at: 2018-07-26 07:43:15
Local clock offset: -0.019 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.18 Mbit/s
95th percentile per-packet one-way delay: 143.362 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 131.32 Mbit/s
95th percentile per-packet one-way delay: 141.134 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 165.75 Mbit/s
95th percentile per-packet one-way delay: 144.217 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 149.56 Mbit/s
95th percentile per-packet one-way delay: 152.176 ms
Loss rate: 3.40%
Run 8: Report of Indigo — Data Link
Run 9: Statistics of Indigo

Start at: 2018-07-26 08:09:39
End at: 2018-07-26 08:10:09
Local clock offset: -0.169 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 280.60 Mbit/s
  95th percentile per-packet one-way delay: 141.839 ms
  Loss rate: 1.50%
-- Flow 1:
  Average throughput: 132.40 Mbit/s
  95th percentile per-packet one-way delay: 140.980 ms
  Loss rate: 0.98%
-- Flow 2:
  Average throughput: 171.45 Mbit/s
  95th percentile per-packet one-way delay: 141.674 ms
  Loss rate: 1.43%
-- Flow 3:
  Average throughput: 107.96 Mbit/s
  95th percentile per-packet one-way delay: 143.270 ms
  Loss rate: 3.67%
Run 9: Report of Indigo — Data Link
Run 10: Statistics of Indigo

Start at: 2018-07-26 08:36:16
End at: 2018-07-26 08:36:46
Local clock offset: -0.228 ms
Remote clock offset: -0.378 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.53 Mbit/s
95th percentile per-packet one-way delay: 148.839 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 163.87 Mbit/s
95th percentile per-packet one-way delay: 145.892 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 153.37 Mbit/s
95th percentile per-packet one-way delay: 154.987 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 104.33 Mbit/s
95th percentile per-packet one-way delay: 145.061 ms
Loss rate: 3.63%
Run 10: Report of Indigo — Data Link

![Graph showing throughput over time for different flows.]
Run 1: Statistics of LEDBAT

Start at: 2018-07-26 04:46:13
End at: 2018-07-26 04:46:43
Local clock offset: -0.106 ms
Remote clock offset: 0.359 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.83 Mbit/s
  95th percentile per-packet one-way delay: 136.047 ms
  Loss rate: 3.10%
-- Flow 1:
  Average throughput: 0.24 Mbit/s
  95th percentile per-packet one-way delay: 135.638 ms
  Loss rate: 0.96%
-- Flow 2:
  Average throughput: 3.18 Mbit/s
  95th percentile per-packet one-way delay: 136.129 ms
  Loss rate: 2.74%
-- Flow 3:
  Average throughput: 1.52 Mbit/s
  95th percentile per-packet one-way delay: 135.987 ms
  Loss rate: 5.56%
Run 2: Statistics of LEDBAT

Start at: 2018-07-26 05:13:31
End at: 2018-07-26 05:14:01
Local clock offset: -0.043 ms
Remote clock offset: -0.399 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 136.426 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 136.297 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 136.153 ms
Loss rate: 5.29%
-- Flow 3:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 136.619 ms
Loss rate: 5.56%
Run 2: Report of LEDBAT — Data Link

![Graph 1: Throughput (Mbps)]

- Flow 1 ingress (mean 0.25 Mbps)
- Flow 1 egress (mean 0.25 Mbps)
- Flow 2 ingress (mean 0.51 Mbps)
- Flow 2 egress (mean 0.49 Mbps)
- Flow 3 ingress (mean 1.57 Mbps)
- Flow 3 egress (mean 1.52 Mbps)

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

- Flow 1 (95th percentile 136.30 ms)
- Flow 2 (95th percentile 136.15 ms)
- Flow 3 (95th percentile 136.62 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-07-26 05:40:49
End at: 2018-07-26 05:41:19
Local clock offset: 0.063 ms
Remote clock offset: 0.437 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 7.33 Mbit/s
  95th percentile per-packet one-way delay: 137.279 ms
  Loss rate: 2.35%
-- Flow 1:
  Average throughput: 4.79 Mbit/s
  95th percentile per-packet one-way delay: 137.375 ms
  Loss rate: 1.84%
-- Flow 2:
  Average throughput: 3.17 Mbit/s
  95th percentile per-packet one-way delay: 137.149 ms
  Loss rate: 2.74%
-- Flow 3:
  Average throughput: 1.48 Mbit/s
  95th percentile per-packet one-way delay: 136.930 ms
  Loss rate: 5.63%
Run 3: Report of LEDBAT — Data Link

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

- **Flow 1 ingress** (mean 4.83 Mbit/s)
- **Flow 1 egress** (mean 4.79 Mbit/s)
- **Flow 2 ingress** (mean 3.22 Mbit/s)
- **Flow 2 egress** (mean 3.17 Mbit/s)
- **Flow 3 ingress** (mean 1.52 Mbit/s)
- **Flow 3 egress** (mean 1.46 Mbit/s)

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

- **Flow 1 (95th percentile 137.38 ms)**
- **Flow 2 (95th percentile 137.15 ms)**
- **Flow 3 (95th percentile 136.93 ms)**
Run 4: Statistics of LEDBAT

Start at: 2018-07-26 06:07:41
End at: 2018-07-26 06:08:11
Local clock offset: -0.063 ms
Remote clock offset: 0.446 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 6.25 Mbit/s
  95th percentile per-packet one-way delay: 136.772 ms
  Loss rate: 2.53%
-- Flow 1:
  Average throughput: 3.79 Mbit/s
  95th percentile per-packet one-way delay: 136.904 ms
  Loss rate: 2.05%
-- Flow 2:
  Average throughput: 3.19 Mbit/s
  95th percentile per-packet one-way delay: 136.677 ms
  Loss rate: 2.74%
-- Flow 3:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 136.496 ms
  Loss rate: 6.15%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2018-07-26 06:34:08
End at: 2018-07-26 06:34:38
Local clock offset: -0.019 ms
Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.25 Mbit/s
95th percentile per-packet one-way delay: 136.713 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 136.749 ms
Loss rate: 2.02%
-- Flow 2:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 136.469 ms
Loss rate: 3.54%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 136.313 ms
Loss rate: 7.57%
Run 6: Statistics of LEDBAT

Start at: 2018-07-26 07:00:47
End at: 2018-07-26 07:01:17
Local clock offset: -0.138 ms
Remote clock offset: -0.4 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 137.683 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 137.784 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 137.531 ms
Loss rate: 3.12%
-- Flow 3:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 137.139 ms
Loss rate: 5.56%
Run 6: Report of LEDBAT — Data Link

![Throughput Graph](image1)

![Round Trip Time Graph](image2)

*Flow 1 ingress (mean 3.99 Mbit/s) — Flow 1 egress (mean 3.94 Mbit/s)*

*Flow 2 ingress (mean 2.44 Mbit/s) — Flow 2 egress (mean 2.40 Mbit/s)*

*Flow 3 ingress (mean 1.57 Mbit/s) — Flow 3 egress (mean 1.52 Mbit/s)*

*Flow 1 (95th percentile 137.78 ms) — Flow 2 (95th percentile 137.53 ms) — Flow 3 (95th percentile 137.14 ms)*
Run 7: Statistics of LEDBAT

Start at: 2018-07-26 07:27:27
End at: 2018-07-26 07:27:57
Local clock offset: 0.062 ms
Remote clock offset: -0.448 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 7.25 Mbit/s
  95th percentile per-packet one-way delay: 138.188 ms
  Loss rate: 2.35%
-- Flow 1:
  Average throughput: 4.73 Mbit/s
  95th percentile per-packet one-way delay: 138.336 ms
  Loss rate: 1.84%
-- Flow 2:
  Average throughput: 3.18 Mbit/s
  95th percentile per-packet one-way delay: 137.825 ms
  Loss rate: 2.74%
-- Flow 3:
  Average throughput: 1.37 Mbit/s
  95th percentile per-packet one-way delay: 137.764 ms
  Loss rate: 5.75%
Run 7: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 4.77 Mbit/s)
- Flow 1 egress (mean 4.73 Mbit/s)
- Flow 2 ingress (mean 3.25 Mbit/s)
- Flow 2 egress (mean 3.18 Mbit/s)
- Flow 3 ingress (mean 1.41 Mbit/s)
- Flow 3 egress (mean 1.37 Mbit/s)

![Graph showing packet delay distribution.]

- Flow 1 (95th percentile 138.34 ms)
- Flow 2 (95th percentile 137.82 ms)
- Flow 3 (95th percentile 137.76 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-07-26 07:54:07
End at: 2018-07-26 07:54:37
Local clock offset: -0.057 ms
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 5.71 Mbit/s
  95th percentile per-packet one-way delay: 137.204 ms
  Loss rate: 2.67%
-- Flow 1:
  Average throughput: 3.60 Mbit/s
  95th percentile per-packet one-way delay: 137.261 ms
  Loss rate: 2.08%
-- Flow 2:
  Average throughput: 2.45 Mbit/s
  95th percentile per-packet one-way delay: 137.122 ms
  Loss rate: 3.09%
-- Flow 3:
  Average throughput: 1.52 Mbit/s
  95th percentile per-packet one-way delay: 136.642 ms
  Loss rate: 5.56%
Run 8: Report of LEDBAT — Data Link

![Graph showing throughput and ping delay over time for different flows with mean values given in Mbit/s and ms respectively.]

Flow 1 ingress (mean 3.64 Mbit/s)  |  Flow 1 egress (mean 3.60 Mbit/s)
Flow 2 ingress (mean 2.49 Mbit/s)  |  Flow 2 egress (mean 2.45 Mbit/s)
Flow 3 ingress (mean 1.57 Mbit/s)  |  Flow 3 egress (mean 1.52 Mbit/s)

Flow 1 (95th percentile 137.26 ms)  |  Flow 2 (95th percentile 137.12 ms)  |  Flow 3 (95th percentile 136.64 ms)
Run 9: Statistics of LEDBAT

Start at: 2018-07-26 08:21:00
End at: 2018-07-26 08:21:30
Local clock offset: 0.088 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 136.651 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 136.651 ms
Loss rate: 2.47%
-- Flow 2:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 136.662 ms
Loss rate: 2.89%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 135.826 ms
Loss rate: 2.41%
Run 9: Report of LEDBAT — Data Link

*Graphs showing time vs. throughput and time vs. per-packet one way delay for different flows.*
Run 10: Statistics of LEDBAT

Start at: 2018-07-26 08:47:28
End at: 2018-07-26 08:47:58
Local clock offset: -0.018 ms
Remote clock offset: 0.389 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 136.690 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 4.86 Mbit/s
95th percentile per-packet one-way delay: 136.758 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 136.260 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 135.629 ms
Loss rate: 7.89%
Run 10: Report of LEDBAT — Data Link

![Graphs showing throughput and packet delay over time for different flows.](image-url)
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-26 04:59:07
End at: 2018-07-26 04:59:37
Local clock offset: -0.127 ms
Remote clock offset: -0.354 ms

# Below is generated by plot.py at 2018-07-26 11:08:32
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 508.90 Mbit/s
  95th percentile per-packet one-way delay: 261.336 ms
  Loss rate: 3.97%
-- Flow 1:
  Average throughput: 495.83 Mbit/s
  95th percentile per-packet one-way delay: 261.375 ms
  Loss rate: 3.91%
-- Flow 2:
  Average throughput: 4.26 Mbit/s
  95th percentile per-packet one-way delay: 259.607 ms
  Loss rate: 3.61%
-- Flow 3:
  Average throughput: 31.81 Mbit/s
  95th percentile per-packet one-way delay: 260.855 ms
  Loss rate: 6.66%
Run 1: Report of PCC-Allegro — Data Link

![Graph of network throughput and packet delays over time]
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-26 05:26:27
End at: 2018-07-26 05:26:57
Local clock offset: 0.207 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-07-26 11:09:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 478.12 Mbit/s
  95th percentile per-packet one-way delay: 276.364 ms
  Loss rate: 5.05%
-- Flow 1:
  Average throughput: 462.06 Mbit/s
  95th percentile per-packet one-way delay: 276.450 ms
  Loss rate: 5.03%
-- Flow 2:
  Average throughput: 16.35 Mbit/s
  95th percentile per-packet one-way delay: 275.195 ms
  Loss rate: 4.47%
-- Flow 3:
  Average throughput: 16.24 Mbit/s
  95th percentile per-packet one-way delay: 274.574 ms
  Loss rate: 7.37%
Run 2: Report of PCC-Allegro — Data Link

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

![Graph 2: Per-packet one-way delay (ms)](image2)
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-26 05:53:26
End at: 2018-07-26 05:53:56
Local clock offset: -0.14 ms
Remote clock offset: 0.098 ms

# Below is generated by plot.py at 2018-07-26 11:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 498.41 Mbit/s
95th percentile per-packet one-way delay: 264.867 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 466.07 Mbit/s
95th percentile per-packet one-way delay: 264.823 ms
Loss rate: 3.12%
-- Flow 2:
Average throughput: 18.77 Mbit/s
95th percentile per-packet one-way delay: 263.916 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 61.84 Mbit/s
95th percentile per-packet one-way delay: 265.551 ms
Loss rate: 6.21%
Run 3: Report of PCC-Allegro — Data Link

![Throughput and Delay Graphs](image)

- Flow 1 Ingress (mean 476.71 Mb/s)
- Flow 1 Egress (mean 466.07 Mb/s)
- Flow 2 Ingress (mean 19.06 Mb/s)
- Flow 2 Egress (mean 18.77 Mb/s)
- Flow 3 Ingress (mean 64.15 Mb/s)
- Flow 3 Egress (mean 61.84 Mb/s)

![Packet Delay Graph](image)

- Flow 1 (95th percentile 264.82 ms)
- Flow 2 (95th percentile 263.92 ms)
- Flow 3 (95th percentile 265.55 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-26 06:20:10
End at: 2018-07-26 06:20:40
Local clock offset: 0.173 ms
Remote clock offset: 0.442 ms

# Below is generated by plot.py at 2018-07-26 11:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.32 Mbit/s
95th percentile per-packet one-way delay: 264.787 ms
Loss rate: 2.58%
-- Flow 1:
Average throughput: 484.66 Mbit/s
95th percentile per-packet one-way delay: 264.787 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 261.077 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 266.121 ms
Loss rate: 4.14%
Run 4: Report of PCC-Allegro — Data Link

![Graph of Throughput vs Time](image1)

- Flow 1 ingress (mean 493.01 Mbit/s)
- Flow 1 egress (mean 484.66 Mbit/s)
- Flow 2 ingress (mean 8.87 Mbit/s)
- Flow 2 egress (mean 8.83 Mbit/s)
- Flow 3 ingress (mean 2.53 Mbit/s)
- Flow 3 egress (mean 2.49 Mbit/s)

![Graph of Packet Delay vs Time](image2)

- Flow 1 (95th percentile 264.79 ms)
- Flow 2 (95th percentile 261.08 ms)
- Flow 3 (95th percentile 266.12 ms)
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-26 06:46:58  
End at: 2018-07-26 06:47:28  
Local clock offset: -0.107 ms  
Remote clock offset: 0.379 ms

# Below is generated by plot.py at 2018-07-26 11:10:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 489.71 Mbit/s  
95th percentile per-packet one-way delay: 261.054 ms  
Loss rate: 3.78%  
-- Flow 1:  
Average throughput: 467.10 Mbit/s  
95th percentile per-packet one-way delay: 261.143 ms  
Loss rate: 3.67%  
-- Flow 2:  
Average throughput: 4.17 Mbit/s  
95th percentile per-packet one-way delay: 258.370 ms  
Loss rate: 3.27%  
-- Flow 3:  
Average throughput: 61.47 Mbit/s  
95th percentile per-packet one-way delay: 259.755 ms  
Loss rate: 6.33%
Run 5: Report of PCC-Allegro — Data Link

---

**Graph 1:**
- **Throughput (Mbps):**
  - Flow 1 Ingress (mean 480.48 Mbps)
  - Flow 1 Egress (mean 467.10 Mbps)
  - Flow 2 Ingress (mean 4.25 Mbps)
  - Flow 2 Egress (mean 4.17 Mbps)
  - Flow 3 Ingress (mean 63.79 Mbps)
  - Flow 3 Egress (mean 61.47 Mbps)

**Graph 2:**
- **Median per-packet delay (ms):**
  - Flow 1 (95th percentile 261.14 ms)
  - Flow 2 (95th percentile 258.37 ms)
  - Flow 3 (95th percentile 259.75 ms)

---

153
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-26 07:13:12
End at: 2018-07-26 07:13:42
Local clock offset: 0.084 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-07-26 11:10:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 496.23 Mbit/s
  95th percentile per-packet one-way delay: 269.605 ms
  Loss rate: 3.44%
-- Flow 1:
  Average throughput: 452.86 Mbit/s
  95th percentile per-packet one-way delay: 269.686 ms
  Loss rate: 3.49%
-- Flow 2:
  Average throughput: 61.41 Mbit/s
  95th percentile per-packet one-way delay: 269.282 ms
  Loss rate: 2.97%
-- Flow 3:
  Average throughput: 8.45 Mbit/s
  95th percentile per-packet one-way delay: 259.352 ms
  Loss rate: 2.96%
Run 6: Report of PCC-Allegro — Data Link

![Graph of throughput]

![Graph of packet error rate]

Legend:
- Flow 1 Ingress (mean 464.96 Mbit/s)
- Flow 1 Egress (mean 452.86 Mbit/s)
- Flow 2 Ingress (mean 62.42 Mbit/s)
- Flow 2 Egress (mean 61.41 Mbit/s)
- Flow 3 Ingress (mean 8.46 Mbit/s)
- Flow 3 Egress (mean 8.45 Mbit/s)
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-26 07:39:43
End at: 2018-07-26 07:40:13
Local clock offset: -0.108 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2018-07-26 11:16:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 464.51 Mbit/s
95th percentile per-packet one-way delay: 281.592 ms
Loss rate: 5.03%
-- Flow 1:
Average throughput: 419.16 Mbit/s
95th percentile per-packet one-way delay: 283.066 ms
Loss rate: 5.10%
-- Flow 2:
Average throughput: 60.33 Mbit/s
95th percentile per-packet one-way delay: 272.814 ms
Loss rate: 4.30%
-- Flow 3:
Average throughput: 16.84 Mbit/s
95th percentile per-packet one-way delay: 271.052 ms
Loss rate: 5.05%
Run 7: Report of PCC-Allegro — Data Link

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

- **Throughput (Mb/s):**
  - Flow 1 Ingress (mean 437.67 Mb/s)
  - Flow 1 Egress (mean 419.16 Mb/s)
  - Flow 2 Ingress (mean 62.17 Mb/s)
  - Flow 2 Egress (mean 60.33 Mb/s)
  - Flow 3 Ingress (mean 17.25 Mb/s)
  - Flow 3 Egress (mean 16.84 Mb/s)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 283.07 ms)
  - Flow 2 (95th percentile 272.81 ms)
  - Flow 3 (95th percentile 271.05 ms)
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-26 08:06:40
End at: 2018-07-26 08:07:10
Local clock offset: -0.074 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2018-07-26 11:18:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.40 Mbit/s
95th percentile per-packet one-way delay: 266.075 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 500.50 Mbit/s
95th percentile per-packet one-way delay: 266.147 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 8.34 Mbit/s
95th percentile per-packet one-way delay: 261.530 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 256.417 ms
Loss rate: 2.57%
Run 8: Report of PCC-Allegro — Data Link

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

- Flow 1 Ingress (mean 508.13 Mbit/s)
- Flow 1 Egress (mean 500.50 Mbit/s)
- Flow 2 Ingress (mean 8.40 Mbit/s)
- Flow 2 Egress (mean 8.34 Mbit/s)
- Flow 3 Ingress (mean 4.40 Mbit/s)
- Flow 3 Egress (mean 4.41 Mbit/s)

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

- Flow 1 (95th percentile 266.15 ms)
- Flow 2 (95th percentile 261.53 ms)
- Flow 3 (95th percentile 256.42 ms)

159
Run 9: Statistics of PCC-Allegro

Start at: 2018-07-26 08:33:18
End at: 2018-07-26 08:33:48
Local clock offset: -0.025 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2018-07-26 11:18:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 486.40 Mbit/s
  95th percentile per-packet one-way delay: 281.644 ms
  Loss rate: 4.33%
-- Flow 1:
  Average throughput: 445.73 Mbit/s
  95th percentile per-packet one-way delay: 285.050 ms
  Loss rate: 4.25%
-- Flow 2:
  Average throughput: 31.67 Mbit/s
  95th percentile per-packet one-way delay: 269.048 ms
  Loss rate: 3.70%
-- Flow 3:
  Average throughput: 61.01 Mbit/s
  95th percentile per-packet one-way delay: 267.102 ms
  Loss rate: 6.90%
Run 9: Report of PCC-Allegro — Data Link

![Graph showing data link performance metrics.](image-url)
Run 10: Statistics of PCC-Allegro

Start at: 2018-07-26 08:59:34
End at: 2018-07-26 09:00:04
Local clock offset: 0.181 ms
Remote clock offset: 0.376 ms

# Below is generated by plot.py at 2018-07-26 11:19:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 467.12 Mbit/s
95th percentile per-packet one-way delay: 303.021 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 437.94 Mbit/s
95th percentile per-packet one-way delay: 302.854 ms
Loss rate: 5.58%
-- Flow 2:
Average throughput: 15.75 Mbit/s
95th percentile per-packet one-way delay: 303.131 ms
Loss rate: 6.54%
-- Flow 3:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 303.970 ms
Loss rate: 12.33%
Run 10: Report of PCC-Allegro — Data Link

![Graph showing network performance metrics](image1.png)

![Graph showing network delay](image2.png)
Run 1: Statistics of PCC-Expr

Start at: 2018-07-26 04:42:47
End at: 2018-07-26 04:43:17
Local clock offset: -0.183 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-07-26 11:19:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 214.56 Mbit/s
  95th percentile per-packet one-way delay: 192.126 ms
  Loss rate: 1.76%
-- Flow 1:
  Average throughput: 85.69 Mbit/s
  95th percentile per-packet one-way delay: 135.891 ms
  Loss rate: 1.30%
-- Flow 2:
  Average throughput: 172.71 Mbit/s
  95th percentile per-packet one-way delay: 229.396 ms
  Loss rate: 1.92%
-- Flow 3:
  Average throughput: 44.85 Mbit/s
  95th percentile per-packet one-way delay: 136.027 ms
  Loss rate: 3.24%
Run 1: Report of PCC-Expr — Data Link
Run 2: Statistics of PCC-Expr

Start at: 2018-07-26 05:09:53
End at: 2018-07-26 05:10:23
Local clock offset: 0.067 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-07-26 11:27:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.89 Mbit/s
95th percentile per-packet one-way delay: 267.384 ms
Loss rate: 4.30%
-- Flow 1:
Average throughput: 288.59 Mbit/s
95th percentile per-packet one-way delay: 267.408 ms
Loss rate: 4.21%
-- Flow 2:
Average throughput: 169.98 Mbit/s
95th percentile per-packet one-way delay: 264.953 ms
Loss rate: 4.05%
-- Flow 3:
Average throughput: 79.54 Mbit/s
95th percentile per-packet one-way delay: 286.723 ms
Loss rate: 6.38%
Run 2: Report of PCC-Expr — Data Link

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

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

Start at: 2018-07-26 05:37:16
End at: 2018-07-26 05:37:46
Local clock offset: 0.066 ms
Remote clock offset: -0.304 ms

# Below is generated by plot.py at 2018-07-26 11:27:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 376.50 Mbit/s
  95th percentile per-packet one-way delay: 313.298 ms
  Loss rate: 8.10%
-- Flow 1:
  Average throughput: 272.37 Mbit/s
  95th percentile per-packet one-way delay: 324.440 ms
  Loss rate: 8.90%
-- Flow 2:
  Average throughput: 155.10 Mbit/s
  95th percentile per-packet one-way delay: 302.341 ms
  Loss rate: 5.87%
-- Flow 3:
  Average throughput: 4.63 Mbit/s
  95th percentile per-packet one-way delay: 306.108 ms
  Loss rate: 10.76%
Run 3: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 296.23 Mbit/s) and egress (mean 272.37 Mbit/s)
- Flow 2 ingress (mean 162.51 Mbit/s) and egress (mean 155.10 Mbit/s)
- Flow 3 ingress (mean 5.04 Mbit/s) and egress (mean 4.63 Mbit/s)

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

- Flow 1 (95th percentile 324.44 ms)
- Flow 2 (95th percentile 302.34 ms)
- Flow 3 (95th percentile 306.11 ms)
Run 4: Statistics of PCC-Expr

Start at: 2018-07-26 06:04:12
End at: 2018-07-26 06:04:42
Local clock offset: 0.153 ms
Remote clock offset: 0.059 ms

# Below is generated by plot.py at 2018-07-26 11:27:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 290.12 Mbit/s
  95th percentile per-packet one-way delay: 212.228 ms
  Loss rate: 2.55%
-- Flow 1:
  Average throughput: 181.30 Mbit/s
  95th percentile per-packet one-way delay: 190.998 ms
  Loss rate: 1.56%
-- Flow 2:
  Average throughput: 92.61 Mbit/s
  95th percentile per-packet one-way delay: 209.526 ms
  Loss rate: 2.52%
-- Flow 3:
  Average throughput: 146.78 Mbit/s
  95th percentile per-packet one-way delay: 251.017 ms
  Loss rate: 6.20%
Run 4: Report of PCC-Expr — Data Link

![Graph showing throughput and delay](image)

Throughput (Mb/s) vs. Time (s)

- Flow 1 ingress (mean 182.50 Mb/s)
- Flow 1 egress (mean 181.30 Mb/s)
- Flow 2 ingress (mean 93.09 Mb/s)
- Flow 2 egress (mean 92.61 Mb/s)
- Flow 3 ingress (mean 152.13 Mb/s)
- Flow 3 egress (mean 146.78 Mb/s)

Delay (ms) vs. Time (s)

- Flow 1 (95th percentile 191.00 ms)
- Flow 2 (95th percentile 209.53 ms)
- Flow 3 (95th percentile 251.02 ms)
Run 5: Statistics of PCC-Expr

Start at: 2018-07-26 06:30:44
End at: 2018-07-26 06:31:14
Local clock offset: 0.108 ms
Remote clock offset: 0.082 ms

# Below is generated by plot.py at 2018-07-26 11:30:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.54 Mbit/s
95th percentile per-packet one-way delay: 249.448 ms
Loss rate: 3.70%
-- Flow 1:
Average throughput: 265.83 Mbit/s
95th percentile per-packet one-way delay: 258.248 ms
Loss rate: 3.76%
-- Flow 2:
Average throughput: 19.13 Mbit/s
95th percentile per-packet one-way delay: 157.258 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 151.51 Mbit/s
95th percentile per-packet one-way delay: 218.629 ms
Loss rate: 3.69%
Run 5: Report of PCC-Expr — Data Link
Run 6: Statistics of PCC-Expr

Start at: 2018-07-26 06:57:18
End at: 2018-07-26 06:57:48
Local clock offset: 0.035 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-26 11:31:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.94 Mbit/s
95th percentile per-packet one-way delay: 146.813 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 179.44 Mbit/s
95th percentile per-packet one-way delay: 143.481 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 175.80 Mbit/s
95th percentile per-packet one-way delay: 149.405 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 80.74 Mbit/s
95th percentile per-packet one-way delay: 137.580 ms
Loss rate: 3.29%
Run 6: Report of PCC-Expr — Data Link

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

Throughput (Mbps):
- Flow 1 ingress (mean 179.29 Mbps)
- Flow 1 egress (mean 179.44 Mbps)
- Flow 2 ingress (mean 176.19 Mbps)
- Flow 2 egress (mean 175.80 Mbps)
- Flow 3 ingress (mean 81.18 Mbps)
- Flow 3 egress (mean 80.74 Mbps)

Packet delay (ms):
- Flow 1 (95th percentile 143.48 ms)
- Flow 2 (95th percentile 149.41 ms)
- Flow 3 (95th percentile 137.58 ms)
Run 7: Statistics of PCC-Expr

Start at: 2018-07-26 07:23:55
End at: 2018-07-26 07:24:25
Local clock offset: -0.198 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2018-07-26 11:31:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.93 Mbit/s
95th percentile per-packet one-way delay: 154.048 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 192.11 Mbit/s
95th percentile per-packet one-way delay: 147.681 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 182.03 Mbit/s
95th percentile per-packet one-way delay: 196.101 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 44.21 Mbit/s
95th percentile per-packet one-way delay: 136.628 ms
Loss rate: 3.39%
Run 7: Report of PCC-Expr — Data Link

![Graph 1: Throughput (Mbps)]

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

Start at: 2018-07-26 07:50:32
End at: 2018-07-26 07:51:02
Local clock offset: -0.067 ms
Remote clock offset: -0.466 ms

# Below is generated by plot.py at 2018-07-26 11:35:10
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 366.05 Mbit/s
  95th percentile per-packet one-way delay: 270.616 ms
  Loss rate: 3.86%
-- Flow 1:
  Average throughput: 256.84 Mbit/s
  95th percentile per-packet one-way delay: 271.832 ms
  Loss rate: 4.20%
-- Flow 2:
  Average throughput: 91.75 Mbit/s
  95th percentile per-packet one-way delay: 155.578 ms
  Loss rate: 1.71%
-- Flow 3:
  Average throughput: 149.72 Mbit/s
  95th percentile per-packet one-way delay: 247.492 ms
  Loss rate: 4.70%
Run 8: Report of PCC-Expr — Data Link

[Graphs showing throughput and one-way delay over time for different flows]

Flow 1 ingress (mean 265.65 Mbit/s)  |  Flow 1 egress (mean 256.84 Mbit/s)
Flow 2 ingress (mean 92.07 Mbit/s)  |  Flow 2 egress (mean 91.75 Mbit/s)
Flow 3 ingress (mean 152.75 Mbit/s)  |  Flow 3 egress (mean 149.72 Mbit/s)

Flow 1 (95th percentile 271.83 ms)  |  Flow 2 (95th percentile 155.58 ms)  |  Flow 3 (95th percentile 247.49 ms)
Run 9: Statistics of PCC-Expr

Start at: 2018-07-26 08:17:22
End at: 2018-07-26 08:17:52
Local clock offset: -0.063 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-07-26 11:36:39
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 383.57 Mbit/s
  95th percentile per-packet one-way delay: 267.807 ms
  Loss rate: 4.33%
-- Flow 1:
  Average throughput: 316.68 Mbit/s
  95th percentile per-packet one-way delay: 268.962 ms
  Loss rate: 4.91%
-- Flow 2:
  Average throughput: 95.86 Mbit/s
  95th percentile per-packet one-way delay: 197.013 ms
  Loss rate: 1.42%
-- Flow 3:
  Average throughput: 10.63 Mbit/s
  95th percentile per-packet one-way delay: 201.146 ms
  Loss rate: 2.50%
Run 9: Report of PCC-Expr — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows with mean throughputs and 95th percentile delays labeled.]
Run 10: Statistics of PCC-Expr

Start at: 2018-07-26 08:44:00
End at: 2018-07-26 08:44:30
Local clock offset: -0.021 ms
Remote clock offset: 0.365 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.52 Mbit/s
95th percentile per-packet one-way delay: 204.634 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 206.15 Mbit/s
95th percentile per-packet one-way delay: 224.291 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 172.02 Mbit/s
95th percentile per-packet one-way delay: 189.184 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 81.83 Mbit/s
95th percentile per-packet one-way delay: 183.816 ms
Loss rate: 3.28%
Run 10: Report of PCC-Expr — Data Link

Throughput (Mib/s)

Flow 1 ingress (mean 206.48 Mib/s)
Flow 1 egress (mean 206.15 Mib/s)
Flow 2 ingress (mean 172.08 Mib/s)
Flow 2 egress (mean 172.02 Mib/s)
Flow 3 ingress (mean 82.27 Mib/s)
Flow 3 egress (mean 81.83 Mib/s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 224.29 ms)
Flow 2 (95th percentile 189.18 ms)
Flow 3 (95th percentile 183.02 ms)

183
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-26 04:40:11
End at: 2018-07-26 04:40:41
Local clock offset: 1.844 ms
Remote clock offset: 0.304 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.86 Mbit/s
95th percentile per-packet one-way delay: 137.533 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 50.16 Mbit/s
95th percentile per-packet one-way delay: 137.554 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 137.284 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 58.65 Mbit/s
95th percentile per-packet one-way delay: 137.523 ms
Loss rate: 3.49%
Run 1: Report of QUIC Cubic — Data Link

![Graph 1: Throughput vs Time]

![Graph 2: Per packet one way delay vs Time]

Legend:
- Flow 1 ingress (mean 50.39 Mbit/s)
- Flow 1 egress (mean 50.16 Mbit/s)
- Flow 2 ingress (mean 50.74 Mbit/s)
- Flow 2 egress (mean 50.59 Mbit/s)
- Flow 3 ingress (mean 59.15 Mbit/s)
- Flow 3 egress (mean 50.65 Mbit/s)
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-26 05:07:16
End at: 2018-07-26 05:07:46
Local clock offset: -0.01 ms
Remote clock offset: 0.334 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.62 Mbit/s
95th percentile per-packet one-way delay: 135.994 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 52.80 Mbit/s
95th percentile per-packet one-way delay: 135.969 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 61.17 Mbit/s
95th percentile per-packet one-way delay: 136.022 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 135.540 ms
Loss rate: 6.31%
Run 2: Report of QUIC Cubic — Data Link

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

- Flow 1: Ingress (mean 53.01 Mbit/s), Egress (mean 52.80 Mbit/s)
- Flow 2: Ingress (mean 60.00 Mbit/s), Egress (mean 61.17 Mbit/s)
- Flow 3: Ingress (mean 31.74 Mbit/s), Egress (mean 30.45 Mbit/s)

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

- Flow 1: 95th percentile 135.97 ms
- Flow 2: 95th percentile 136.02 ms
- Flow 3: 95th percentile 135.54 ms

187
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-26 05:34:39
End at: 2018-07-26 05:35:09
Local clock offset: 0.232 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.18 Mbit/s
  95th percentile per-packet one-way delay: 136.482 ms
  Loss rate: 2.04%
-- Flow 1:
  Average throughput: 54.64 Mbit/s
  95th percentile per-packet one-way delay: 136.500 ms
  Loss rate: 1.30%
-- Flow 2:
  Average throughput: 44.15 Mbit/s
  95th percentile per-packet one-way delay: 135.748 ms
  Loss rate: 2.13%
-- Flow 3:
  Average throughput: 37.89 Mbit/s
  95th percentile per-packet one-way delay: 136.454 ms
  Loss rate: 5.03%
Run 3: Report of QUIC Cubic — Data Link
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-26 06:01:36  
End at: 2018-07-26 06:02:06  
Local clock offset: 1.813 ms  
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2018-07-26 11:39:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 98.28 Mbit/s  
95th percentile per-packet one-way delay: 138.247 ms  
Loss rate: 1.66%  
-- Flow 1:  
Average throughput: 48.17 Mbit/s  
95th percentile per-packet one-way delay: 138.239 ms  
Loss rate: 1.36%  
-- Flow 2:  
Average throughput: 61.52 Mbit/s  
95th percentile per-packet one-way delay: 138.104 ms  
Loss rate: 0.43%  
-- Flow 3:  
Average throughput: 28.83 Mbit/s  
95th percentile per-packet one-way delay: 138.358 ms  
Loss rate: 8.01%
Run 4: Report of QUIC Cubic — Data Link

![Graph 1: Throughput vs Time](chart-url)

- Flow 1 Ingress (mean 48.40 Mbit/s)
- Flow 1 Egress (mean 48.17 Mbit/s)
- Flow 2 Ingress (mean 60.94 Mbit/s)
- Flow 2 Egress (mean 61.52 Mbit/s)
- Flow 3 Ingress (mean 30.48 Mbit/s)
- Flow 3 Egress (mean 20.63 Mbit/s)

![Graph 2: Packet Delay vs Time](chart-url)

- Flow 1 (95th percentile 138.24 ms)
- Flow 2 (95th percentile 138.10 ms)
- Flow 3 (95th percentile 138.36 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-26 06:28:07
End at: 2018-07-26 06:28:37
Local clock offset: 1.757 ms
Remote clock offset: -0.282 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.70 Mbit/s
95th percentile per-packet one-way delay: 138.086 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 52.77 Mbit/s
95th percentile per-packet one-way delay: 138.082 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 48.71 Mbit/s
95th percentile per-packet one-way delay: 137.970 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 35.95 Mbit/s
95th percentile per-packet one-way delay: 138.131 ms
Loss rate: 5.59%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-26 06:54:41
End at: 2018-07-26 06:55:11
Local clock offset: 0.069 ms
Remote clock offset: -0.377 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.77 Mbit/s
95th percentile per-packet one-way delay: 136.871 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 55.57 Mbit/s
95th percentile per-packet one-way delay: 136.899 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 61.53 Mbit/s
95th percentile per-packet one-way delay: 136.218 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.80 Mbit/s
95th percentile per-packet one-way delay: 136.161 ms
Loss rate: 5.65%
Run 6: Report of QUIC Cubic — Data Link

[Graph showing network performance metrics over time]

[Graph showing packet round-trip delay over time]
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-26 07:21:18
End at: 2018-07-26 07:21:48
Local clock offset: -0.077 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.73 Mbit/s
95th percentile per-packet one-way delay: 136.511 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 59.68 Mbit/s
95th percentile per-packet one-way delay: 136.344 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 52.01 Mbit/s
95th percentile per-packet one-way delay: 136.495 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 35.81 Mbit/s
95th percentile per-packet one-way delay: 136.591 ms
Loss rate: 5.48%
Run 7: Report of QUIC Cubic — Data Link
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-26 07:47:54
End at: 2018-07-26 07:48:24
Local clock offset: 0.023 ms
Remote clock offset: 0.245 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.27 Mbit/s
95th percentile per-packet one-way delay: 136.318 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 134.795 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 50.39 Mbit/s
95th percentile per-packet one-way delay: 136.369 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 27.12 Mbit/s
95th percentile per-packet one-way delay: 136.054 ms
Loss rate: 7.31%
Run 8: Report of QUIC Cubic — Data Link
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-26 08:14:46
End at: 2018-07-26 08:15:16
Local clock offset: -0.09 ms
Remote clock offset: 0.292 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 135.576 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 135.586 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 47.02 Mbit/s
95th percentile per-packet one-way delay: 135.570 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 135.336 ms
Loss rate: 3.79%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-26 08:41:23
End at: 2018-07-26 08:41:53
Local clock offset: -0.028 ms
Remote clock offset: -0.348 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 99.92 Mbit/s
  95th percentile per-packet one-way delay: 136.866 ms
  Loss rate: 1.47%
-- Flow 1:
  Average throughput: 57.78 Mbit/s
  95th percentile per-packet one-way delay: 136.884 ms
  Loss rate: 1.19%
-- Flow 2:
  Average throughput: 45.76 Mbit/s
  95th percentile per-packet one-way delay: 136.741 ms
  Loss rate: 2.23%
-- Flow 3:
  Average throughput: 36.79 Mbit/s
  95th percentile per-packet one-way delay: 136.698 ms
  Loss rate: 0.82%
Run 10: Report of QUIC Cubic — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress** (mean 57.94 Mbps)
- **Flow 1 egress** (mean 57.78 Mbps)
- **Flow 2 ingress** (mean 46.16 Mbps)
- **Flow 2 egress** (mean 45.76 Mbps)
- **Flow 3 ingress** (mean 36.05 Mbps)
- **Flow 3 egress** (mean 36.79 Mbps)

---

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

- **Flow 1 (95th percentile 136.88 ms)**
- **Flow 2 (95th percentile 136.74 ms)**
- **Flow 3 (95th percentile 136.70 ms)**
Run 1: Statistics of SCReAM

Start at: 2018-07-26 04:36:38
End at: 2018-07-26 04:37:08
Local clock offset: -0.144 ms
Remote clock offset: 0.342 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 135.658 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.657 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.495 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.688 ms
Loss rate: 2.59%
Run 1: Report of SCReAM — Data Link

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

- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.22 Mbps)
- Flow 2 egress (mean 0.22 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)

- Per-packet one-way delay (ms)
- Time (s)
- Flow 1 (95th percentile 135.66 ms)
- Flow 2 (95th percentile 135.50 ms)
- Flow 3 (95th percentile 135.69 ms)
Run 2: Statistics of SCReAM

Start at: 2018-07-26 05:03:45
End at: 2018-07-26 05:04:15
Local clock offset: 1.722 ms
Remote clock offset: 0.309 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 137.630 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.535 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 137.672 ms
  Loss rate: 1.43%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.032 ms
  Loss rate: 2.59%
Run 2: Report of SCReAM — Data Link

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

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

**Per-connection one-way delay (ms)**
- Flow 1 (95th percentile 137.53 ms)
- Flow 2 (95th percentile 137.67 ms)
- Flow 3 (95th percentile 136.03 ms)
Run 3: Statistics of SCReAM

Start at: 2018-07-26 05:31:06
End at: 2018-07-26 05:31:36
Local clock offset: 0.34 ms
Remote clock offset: 0.341 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.230 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.213 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.268 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.289 ms
Loss rate: 2.59%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-07-26 05:58:07
End at: 2018-07-26 05:58:37
Local clock offset: 0.012 ms
Remote clock offset: -0.281 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.727 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.036 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.771 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.611 ms
Loss rate: 2.59%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2018-07-26 06:24:49
End at: 2018-07-26 06:25:19
Local clock offset: -0.215 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 135.571 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.573 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.549 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.586 ms
Loss rate: 2.59%
Run 5: 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]
Run 6: Statistics of SCReAM

Start at: 2018-07-26 06:51:34
End at: 2018-07-26 06:52:04
Local clock offset: -0.04 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics

-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.337 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.144 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.376 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.137 ms
Loss rate: 2.59%
Run 6: Report of SCReAM — Data Link

[Graphs showing throughput and delay over time for different flows]
Run 7: Statistics of SCReAM

Start at: 2018-07-26 07:17:51
End at: 2018-07-26 07:18:21
Local clock offset: 0.034 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.661 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.542 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.704 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.762 ms
Loss rate: 2.59%
Run 7: Report of SCReAM — Data Link
Run 8: Statistics of SCReAM

Start at: 2018-07-26 07:44:24
End at: 2018-07-26 07:44:54
Local clock offset: 0.122 ms
Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 136.311 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.484 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.201 ms
  Loss rate: 1.43%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.008 ms
  Loss rate: 2.59%
Run 8: Report of SCReAM — Data Link

Graph 1: Throughput (Mbps)

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

Legend:
- Flow 1 ingress (mean 0.22 Mbps)
- Flow 1 egress (mean 0.22 Mbps)
- Flow 2 ingress (mean 0.22 Mbps)
- Flow 2 egress (mean 0.22 Mbps)
- Flow 3 ingress (mean 0.22 Mbps)
- Flow 3 egress (mean 0.22 Mbps)

Flow 1 (95th percentile 136.48 ms) - Flow 2 (95th percentile 136.20 ms) - Flow 3 (95th percentile 135.01 ms)
Run 9: Statistics of SCReAM

Start at: 2018-07-26 08:11:18
End at: 2018-07-26 08:11:48
Local clock offset: 0.218 ms
Remote clock offset: -0.481 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  95th percentile per-packet one-way delay: 136.733 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.294 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.821 ms
  Loss rate: 1.43%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.785 ms
  Loss rate: 2.59%
Run 9: Report of SCReAM — Data Link

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

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

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

- **Flow 1 (95th percentile: 136.29 ms)**
- **Flow 2 (95th percentile: 135.82 ms)**
- **Flow 3 (95th percentile: 136.78 ms)**
Run 10: Statistics of SCReAM

Start at: 2018-07-26 08:37:56
End at: 2018-07-26 08:38:26
Local clock offset: -0.083 ms
Remote clock offset: 0.325 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 136.336 ms
  Loss rate: 1.36%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.400 ms
  Loss rate: 0.89%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 136.375 ms
  Loss rate: 1.43%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 135.681 ms
  Loss rate: 2.59%
Run 1: Statistics of Sprout

Start at: 2018-07-26 04:41:32
End at: 2018-07-26 04:42:02
Local clock offset: -0.035 ms
Remote clock offset: 0.36 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 135.796 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 135.755 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 135.898 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 135.838 ms
Loss rate: 1.42%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

Start at: 2018-07-26 05:08:38
End at: 2018-07-26 05:09:08
Local clock offset: -0.085 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.35 Mbit/s
  95th percentile per-packet one-way delay: 136.305 ms
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 0.18 Mbit/s
  95th percentile per-packet one-way delay: 136.292 ms
  Loss rate: 0.28%
-- Flow 2:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 136.340 ms
  Loss rate: 0.46%
-- Flow 3:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 135.939 ms
  Loss rate: 3.61%
Run 2: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 0.18 Mbit/s)
- Flow 1 egress (mean 0.18 Mbit/s)
- Flow 2 ingress (mean 0.17 Mbit/s)
- Flow 2 egress (mean 0.17 Mbit/s)
- Flow 3 ingress (mean 0.17 Mbit/s)
- Flow 3 egress (mean 0.17 Mbit/s)
Run 3: Statistics of Sprout

Start at: 2018-07-26 05:36:01
End at: 2018-07-26 05:36:31
Local clock offset: 2.021 ms
Remote clock offset: -0.315 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.33 Mbit/s
  95th percentile per-packet one-way delay: 138.836 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 138.832 ms
  Loss rate: 0.33%
-- Flow 2:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 138.833 ms
  Loss rate: 0.75%
-- Flow 3:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 138.967 ms
  Loss rate: 1.54%
Run 3: Report of Sprout — Data Link

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

![Graph 2: Round-Trip Time vs Time](image2)
Run 4: Statistics of Sprout

Start at: 2018-07-26 06:02:57
End at: 2018-07-26 06:03:27
Local clock offset: 0.199 ms
Remote clock offset: -0.268 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.31 Mbit/s
  95th percentile per-packet one-way delay: 137.046 ms
  Loss rate: 1.29%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 137.058 ms
  Loss rate: 0.79%
-- Flow 2:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 137.021 ms
  Loss rate: 1.26%
-- Flow 3:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 136.985 ms
  Loss rate: 2.49%
Run 4: Report of Sprout — Data Link

Throughput (Mbit/s)

- Flow 1 ingress (mean 0.15 Mbit/s)
- Flow 1 egress (mean 0.15 Mbit/s)
- Flow 2 ingress (mean 0.14 Mbit/s)
- Flow 2 egress (mean 0.14 Mbit/s)
- Flow 3 ingress (mean 0.20 Mbit/s)
- Flow 3 egress (mean 0.20 Mbit/s)

End-to-end one-way delay (ms)

- Flow 1 (95th percentile 137.06 ms)
- Flow 2 (95th percentile 137.02 ms)
- Flow 3 (95th percentile 136.99 ms)
Run 5: Statistics of Sprout

Start at: 2018-07-26 06:29:29
End at: 2018-07-26 06:29:59
Local clock offset: 0.238 ms
Remote clock offset: 0.439 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.32 Mbit/s
  95th percentile per-packet one-way delay: 136.434 ms
  Loss rate: 1.31%
-- Flow 1:
  Average throughput: 0.16 Mbit/s
  95th percentile per-packet one-way delay: 136.457 ms
  Loss rate: 1.95%
-- Flow 2:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 135.832 ms
  Loss rate: 0.93%
-- Flow 3:
  Average throughput: 0.18 Mbit/s
  95th percentile per-packet one-way delay: 135.831 ms
  Loss rate: 0.22%
Run 5: Report of Sprout — Data Link

![Graph showing throughput and latency for Flow 1 to 3 ingresses and egresses.]
Run 6: Statistics of Sprout

Start at: 2018-07-26 06:56:03
End at: 2018-07-26 06:56:33
Local clock offset: 0.114 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.549 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 136.560 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.382 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 136.467 ms
Loss rate: 1.59%
Run 6: Report of Sprout — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 0.16 Mbit/s)
- Flow 1 egress (mean 0.16 Mbit/s)
- Flow 2 ingress (mean 0.18 Mbit/s)
- Flow 2 egress (mean 0.18 Mbit/s)
- Flow 3 ingress (mean 0.30 Mbit/s)
- Flow 3 egress (mean 0.30 Mbit/s)

End-to-end one-way delay (ms):

- Flow 1 (95th percentile 136.56 ms)
- Flow 2 (95th percentile 136.38 ms)
- Flow 3 (95th percentile 136.47 ms)
Run 7: Statistics of Sprout

Start at: 2018-07-26 07:22:40
End at: 2018-07-26 07:23:10
Local clock offset: -0.056 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 136.696 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 136.708 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 136.617 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 136.507 ms
Loss rate: 1.27%
Run 7: Report of Sprout — Data Link

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

- Flow 1 ingress (mean 0.14 Mbit/s)
- Flow 1 egress (mean 0.14 Mbit/s)
- Flow 2 ingress (mean 0.17 Mbit/s)
- Flow 2 egress (mean 0.17 Mbit/s)
- Flow 3 ingress (mean 0.28 Mbit/s)
- Flow 3 egress (mean 0.29 Mbit/s)
Run 8: Statistics of Sprout

Start at: 2018-07-26 07:49:17
End at: 2018-07-26 07:49:47
Local clock offset: ~0.099 ms
Remote clock offset: 0.242 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.38 Mbit/s
  95th percentile per-packet one-way delay: 136.145 ms
  Loss rate: 0.87%
-- Flow 1:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 136.163 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 136.067 ms
  Loss rate: 0.42%
-- Flow 3:
  Average throughput: 0.19 Mbit/s
  95th percentile per-packet one-way delay: 135.994 ms
  Loss rate: 2.44%
Run 8: Report of Sprout — Data Link

![Graph 1: Throughput (Mbps) vs. Time (s)]
- Flow 1 ingress (mean 0.19 Mbit/s)
- Flow 1 egress (mean 0.19 Mbit/s)
- Flow 2 ingress (mean 0.19 Mbit/s)
- Flow 2 egress (mean 0.19 Mbit/s)
- Flow 3 ingress (mean 0.19 Mbit/s)
- Flow 3 egress (mean 0.19 Mbit/s)

![Graph 2: End-to-end delay (ms) vs. Time (s)]
- Flow 1 (95th percentile 136.16 ms)
- Flow 2 (95th percentile 136.07 ms)
- Flow 3 (95th percentile 135.99 ms)
Run 9: Statistics of Sprout

Start at: 2018-07-26 08:16:07
End at: 2018-07-26 08:16:37
Local clock offset: -0.148 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 136.249 ms
  Loss rate: 0.97%
-- Flow 1:
  Average throughput: 0.15 Mbit/s
  95th percentile per-packet one-way delay: 135.950 ms
  Loss rate: 0.82%
-- Flow 2:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 136.277 ms
  Loss rate: 0.90%
-- Flow 3:
  Average throughput: 0.27 Mbit/s
  95th percentile per-packet one-way delay: 136.062 ms
  Loss rate: 1.32%
Run 9: Report of Sprout — Data Link
Run 10: Statistics of Sprout

Start at: 2018-07-26 08:42:45
End at: 2018-07-26 08:43:15
Local clock offset: -0.059 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2018-07-26 11:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 136.417 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 136.464 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.431 ms
Loss rate: 1.13%
Run 10: Report of Sprout — Data Link
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-26 04:53:59
End at: 2018-07-26 04:54:29
Local clock offset: 0.086 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2018-07-26 11:47:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 311.75 Mbit/s
  95th percentile per-packet one-way delay: 137.341 ms
  Loss rate: 1.28%
-- Flow 1:
  Average throughput: 193.94 Mbit/s
  95th percentile per-packet one-way delay: 136.906 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 172.29 Mbit/s
  95th percentile per-packet one-way delay: 137.880 ms
  Loss rate: 1.80%
-- Flow 3:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 139.710 ms
  Loss rate: 3.18%
Run 1: Report of TaoVA-100x — Data Link

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

- **Throughput**: The top graph shows the throughput (Mbit/s) over time for three different flows (1, 2, and 3), each with different ingress and egress rates.
- **Delay**: The bottom graph illustrates the per-packet one-way delay in milliseconds for the same flows.

Legend:
- Flow 1 ingress (mean 193.99 Mbit/s)
- Flow 1 egress (mean 193.94 Mbit/s)
- Flow 2 ingress (mean 173.05 Mbit/s)
- Flow 2 egress (mean 172.29 Mbit/s)
- Flow 3 ingress (mean 10.96 Mbit/s)
- Flow 3 egress (mean 10.91 Mbit/s)

---

245
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-26 05:21:18
End at: 2018-07-26 05:21:48
Local clock offset: 1.806 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2018-07-26 11:47:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 319.91 Mbit/s
  95th percentile per-packet one-way delay: 141.527 ms
  Loss rate: 1.14%
-- Flow 1:
  Average throughput: 192.89 Mbit/s
  95th percentile per-packet one-way delay: 142.026 ms
  Loss rate: 1.09%
-- Flow 2:
  Average throughput: 185.36 Mbit/s
  95th percentile per-packet one-way delay: 140.936 ms
  Loss rate: 1.16%
-- Flow 3:
  Average throughput: 12.67 Mbit/s
  95th percentile per-packet one-way delay: 138.579 ms
  Loss rate: 2.91%
Run 2: Report of TaoVA-100x — Data Link

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

- **Flow 1 ingress** (mean 193.36 Mbit/s)
- **Flow 1 egress** (mean 192.89 Mbit/s)
- **Flow 2 ingress** (mean 184.92 Mbit/s)
- **Flow 2 egress** (mean 185.36 Mbit/s)
- **Flow 3 ingress** (mean 12.69 Mbit/s)
- **Flow 3 egress** (mean 12.67 Mbit/s)

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

- **Flow 1 (95th percentile 142.03 ms)**
- **Flow 2 (95th percentile 140.94 ms)**
- **Flow 3 (95th percentile 138.58 ms)**
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-26 05:48:33
End at: 2018-07-26 05:49:03
Local clock offset: 0.133 ms
Remote clock offset: 0.069 ms

# Below is generated by plot.py at 2018-07-26 11:47:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 195.39 Mbit/s
  95th percentile per-packet one-way delay: 136.500 ms
  Loss rate: 1.18%
-- Flow 1:
  Average throughput: 182.48 Mbit/s
  95th percentile per-packet one-way delay: 136.504 ms
  Loss rate: 1.14%
-- Flow 2:
  Average throughput: 13.16 Mbit/s
  95th percentile per-packet one-way delay: 136.475 ms
  Loss rate: 1.39%
-- Flow 3:
  Average throughput: 12.88 Mbit/s
  95th percentile per-packet one-way delay: 136.452 ms
  Loss rate: 2.81%
Run 3: Report of TaoVA-100x — Data Link

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

```
Flow 1 ingress (mean 182.89 Mbit/s)  Flow 1 egress (mean 182.48 Mbit/s)
Flow 2 ingress (mean 13.17 Mbit/s)  Flow 2 egress (mean 13.16 Mbit/s)
Flow 3 ingress (mean 12.89 Mbit/s)  Flow 3 egress (mean 12.88 Mbit/s)
```

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

```
Flow 1 (95th percentile 136.50 ms)  Flow 2 (95th percentile 136.47 ms)  Flow 3 (95th percentile 136.45 ms)
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-26 06:15:26
End at: 2018-07-26 06:15:56
Local clock offset: -0.013 ms
Remote clock offset: -0.334 ms

# Below is generated by plot.py at 2018-07-26 11:47:38
# Datalink statistics

-- Total of 3 flows:
Average throughput: 138.61 Mbit/s
95th percentile per-packet one-way delay: 137.040 ms
Loss rate: 1.51%

-- Flow 1:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 136.507 ms
Loss rate: 0.93%

-- Flow 2:
Average throughput: 183.03 Mbit/s
95th percentile per-packet one-way delay: 137.142 ms
Loss rate: 1.53%

-- Flow 3:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 136.803 ms
Loss rate: 2.91%
Run 4: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 13.12 Mbit/s)
- Flow 1 egress (mean 13.12 Mbit/s)
- Flow 2 ingress (mean 183.31 Mbit/s)
- Flow 2 egress (mean 183.03 Mbit/s)
- Flow 3 ingress (mean 12.64 Mbit/s)
- Flow 3 egress (mean 12.62 Mbit/s)

![Graph showing packet latency distribution over time for different data flows.]

- Flow 1 (95th percentile 136.51 ms)
- Flow 2 (95th percentile 137.14 ms)
- Flow 3 (95th percentile 136.80 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-26 06:41:58
End at: 2018-07-26 06:42:28
Local clock offset: -0.154 ms
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2018-07-26 11:48:23
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 302.98 Mbit/s
   95th percentile per-packet one-way delay: 143.860 ms
   Loss rate: 0.57%
   -- Flow 1:
      Average throughput: 159.54 Mbit/s
      95th percentile per-packet one-way delay: 140.885 ms
      Loss rate: 0.05%
   -- Flow 2:
      Average throughput: 163.21 Mbit/s
      95th percentile per-packet one-way delay: 144.108 ms
      Loss rate: 0.00%
   -- Flow 3:
      Average throughput: 111.77 Mbit/s
      95th percentile per-packet one-way delay: 149.729 ms
      Loss rate: 4.39%
Run 5: Report of TaoVA-100x — Data Link

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

- Flow 1 ingress (mean 157.89 Mbps)
- Flow 1 egress (mean 159.54 Mbps)
- Flow 2 ingress (mean 163.35 Mbps)
- Flow 2 egress (mean 163.21 Mbps)
- Flow 3 ingress (mean 113.26 Mbps)
- Flow 3 egress (mean 111.77 Mbps)

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

- Flow 1 (95th percentile 140.88 ms)
- Flow 2 (95th percentile 144.11 ms)
- Flow 3 (95th percentile 149.73 ms)
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-26 07:08:28
End at: 2018-07-26 07:08:58
Local clock offset: -0.012 ms
Remote clock offset: -0.405 ms

# Below is generated by plot.py at 2018-07-26 11:48:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.10 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 136.916 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 201.85 Mbit/s
95th percentile per-packet one-way delay: 137.748 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 137.305 ms
Loss rate: 2.84%
Run 6: Report of TaoVA-100x — Data Link

![Graph showing throughput and per-packet delay over time for different flows.](image-url)
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-26 07:35:05
End at: 2018-07-26 07:35:35
Local clock offset: -0.052 ms
Remote clock offset: 0.275 ms

# Below is generated by plot.py at 2018-07-26 11:48:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.14 Mbit/s
95th percentile per-packet one-way delay: 136.212 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 13.37 Mbit/s
95th percentile per-packet one-way delay: 136.144 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 13.20 Mbit/s
95th percentile per-packet one-way delay: 135.943 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 197.27 Mbit/s
95th percentile per-packet one-way delay: 136.345 ms
Loss rate: 3.30%
Run 7: Report of TaoVA-100x — Data Link

Throughput (Mbps) vs Time (s)

Flow 1 ingress (mean 13.38 Mbps)  Flow 1 egress (mean 13.37 Mbps)
Flow 2 ingress (mean 13.21 Mbps)  Flow 2 egress (mean 13.20 Mbps)
Flow 3 ingress (mean 197.48 Mbps) Flow 3 egress (mean 197.27 Mbps)

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

Flow 1 (95th percentile 136.14 ms)  Flow 2 (95th percentile 135.94 ms)  Flow 3 (95th percentile 136.34 ms)
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-26 08:01:40
End at: 2018-07-26 08:02:10
Local clock offset: 0.021 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 304.31 Mbit/s
  95th percentile per-packet one-way delay: 142.056 ms
  Loss rate: 1.26%
  -- Flow 1:
    Average throughput: 187.67 Mbit/s
    95th percentile per-packet one-way delay: 140.607 ms
    Loss rate: 0.83%
  -- Flow 2:
    Average throughput: 170.39 Mbit/s
    95th percentile per-packet one-way delay: 144.218 ms
    Loss rate: 1.90%
  -- Flow 3:
    Average throughput: 11.40 Mbit/s
    95th percentile per-packet one-way delay: 140.123 ms
    Loss rate: 3.27%
Run 8: Report of TaoVA-100x — Data Link

[Graph 1: Throughput (Mbps)]
- Flow 1 ingress (mean 187.64 Mbps)
- Flow 1 egress (mean 187.67 Mbps)
- Flow 2 ingress (mean 171.32 Mbps)
- Flow 2 egress (mean 170.39 Mbps)
- Flow 3 ingress (mean 11.45 Mbps)
- Flow 3 egress (mean 11.40 Mbps)

[Graph 2: Per packet one-way delay (ms)]
- Flow 1 (95th percentile 140.61 ms)
- Flow 2 (95th percentile 144.22 ms)
- Flow 3 (95th percentile 140.12 ms)
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-26 08:28:41
End at: 2018-07-26 08:29:11
Local clock offset: -0.071 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.68 Mbit/s
95th percentile per-packet one-way delay: 136.467 ms
Loss rate: 2.98%

-- Flow 1:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 136.006 ms
Loss rate: 0.40%

-- Flow 2:
Average throughput: 8.34 Mbit/s
95th percentile per-packet one-way delay: 136.014 ms
Loss rate: 1.30%

-- Flow 3:
Average throughput: 153.38 Mbit/s
95th percentile per-packet one-way delay: 136.551 ms
Loss rate: 3.67%
Run 9: Report of TaoVA-100x — Data Link
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-26 08:54:47
End at: 2018-07-26 08:55:17
Local clock offset: -0.054 ms
Remote clock offset: 0.347 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 141.56 Mbit/s
   95th percentile per-packet one-way delay: 136.133 ms
   Loss rate: 1.49%
-- Flow 1:
   Average throughput: 11.38 Mbit/s
   95th percentile per-packet one-way delay: 135.955 ms
   Loss rate: 0.36%
-- Flow 2:
   Average throughput: 190.00 Mbit/s
   95th percentile per-packet one-way delay: 136.146 ms
   Loss rate: 1.54%
-- Flow 3:
   Average throughput: 12.74 Mbit/s
   95th percentile per-packet one-way delay: 136.120 ms
   Loss rate: 2.94%
Run 10: Report of TaoVA-100x — Data Link

![Throughput Graph]

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

Start at: 2018-07-26 04:47:29
End at: 2018-07-26 04:47:59
Local clock offset: -0.17 ms
Remote clock offset: 0.296 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.31 Mbit/s
95th percentile per-packet one-way delay: 148.809 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 81.93 Mbit/s
95th percentile per-packet one-way delay: 148.410 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 79.46 Mbit/s
95th percentile per-packet one-way delay: 149.659 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 71.11 Mbit/s
95th percentile per-packet one-way delay: 148.228 ms
Loss rate: 3.51%
Run 1: Report of TCP Vegas — Data Link

[Graphs showing throughput and per-packet one-way delay over time for different flows with mean rates and 95th percentile delays indicated.

265
Run 2: Statistics of TCP Vegas

Start at: 2018-07-26 05:14:46
End at: 2018-07-26 05:15:16
Local clock offset: -0.111 ms
Remote clock offset: -0.376 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.56 Mbit/s
95th percentile per-packet one-way delay: 149.511 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 82.69 Mbit/s
95th percentile per-packet one-way delay: 149.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.38 Mbit/s
95th percentile per-packet one-way delay: 144.894 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 70.27 Mbit/s
95th percentile per-packet one-way delay: 150.802 ms
Loss rate: 0.02%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

Start at: 2018-07-26 05:42:05
End at: 2018-07-26 05:42:35
Local clock offset: 1.773 ms
Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.83 Mbit/s
95th percentile per-packet one-way delay: 147.359 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 62.33 Mbit/s
95th percentile per-packet one-way delay: 147.823 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 57.69 Mbit/s
95th percentile per-packet one-way delay: 146.803 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 28.60 Mbit/s
95th percentile per-packet one-way delay: 141.138 ms
Loss rate: 3.33%
Run 3: Report of TCP Vegas — Data Link

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

269
Run 4: Statistics of TCP Vegas

Start at: 2018-07-26 06:08:57
End at: 2018-07-26 06:09:27
Local clock offset: 0.143 ms
Remote clock offset: -0.263 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.63 Mbit/s
95th percentile per-packet one-way delay: 146.234 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 82.71 Mbit/s
95th percentile per-packet one-way delay: 146.509 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 30.21 Mbit/s
95th percentile per-packet one-way delay: 140.135 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 71.25 Mbit/s
95th percentile per-packet one-way delay: 146.626 ms
Loss rate: 3.38%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2018-07-26 06:35:24
End at: 2018-07-26 06:35:54
Local clock offset: -0.072 ms
Remote clock offset: 0.079 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.20 Mbit/s
95th percentile per-packet one-way delay: 148.678 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 75.79 Mbit/s
95th percentile per-packet one-way delay: 148.740 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 79.30 Mbit/s
95th percentile per-packet one-way delay: 149.219 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 71.03 Mbit/s
95th percentile per-packet one-way delay: 145.810 ms
Loss rate: 3.41%
Run 5: Report of TCP Vegas — Data Link

![Graph 1: Throughput (Mb/s)](image1)

- **Flow 1 ingress (mean 75.25 Mb/s)**
- **Flow 1 egress (mean 75.79 Mb/s)**
- **Flow 2 ingress (mean 79.44 Mb/s)**
- **Flow 2 egress (mean 79.30 Mb/s)**
- **Flow 3 ingress (mean 71.53 Mb/s)**
- **Flow 3 egress (mean 71.03 Mb/s)**

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

- **Flow 1 (95th percentile 148.74 ms)**
- **Flow 2 (95th percentile 149.22 ms)**
- **Flow 3 (95th percentile 145.01 ms)**
Run 6: Statistics of TCP Vegas

Start at: 2018-07-26 07:02:03
End at: 2018-07-26 07:02:33
Local clock offset: 0.012 ms
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 140.68 Mbit/s
  95th percentile per-packet one-way delay: 144.795 ms
  Loss rate: 1.62%
-- Flow 1:
  Average throughput: 65.38 Mbit/s
  95th percentile per-packet one-way delay: 141.503 ms
  Loss rate: 1.00%
-- Flow 2:
  Average throughput: 79.61 Mbit/s
  95th percentile per-packet one-way delay: 144.990 ms
  Loss rate: 1.53%
-- Flow 3:
  Average throughput: 70.69 Mbit/s
  95th percentile per-packet one-way delay: 147.118 ms
  Loss rate: 3.52%
Run 6: Report of TCP Vegas — Data Link

![Graph of Throughput vs Time](image1)

![Graph of Packet Delivery Time vs Time](image2)
Run 7: Statistics of TCP Vegas

Start at: 2018-07-26 07:28:43
End at: 2018-07-26 07:29:13
Local clock offset: -0.019 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.42 Mbit/s
95th percentile per-packet one-way delay: 146.761 ms
Loss rate: 1.49%

-- Flow 1:
Average throughput: 82.59 Mbit/s
95th percentile per-packet one-way delay: 145.569 ms
Loss rate: 0.98%

-- Flow 2:
Average throughput: 63.77 Mbit/s
95th percentile per-packet one-way delay: 143.770 ms
Loss rate: 1.53%

-- Flow 3:
Average throughput: 68.05 Mbit/s
95th percentile per-packet one-way delay: 148.698 ms
Loss rate: 3.27%
Run 7: Report of TCP Vegas — Data Link
Run 8: Statistics of TCP Vegas

End at: 2018-07-26 07:55:53
Local clock offset: 0.013 ms
Remote clock offset: 0.262 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 126.11 Mbit/s
  95th percentile per-packet one-way delay: 146.178 ms
  Loss rate: 1.45%
-- Flow 1:
  Average throughput: 82.88 Mbit/s
  95th percentile per-packet one-way delay: 146.918 ms
  Loss rate: 0.98%
-- Flow 2:
  Average throughput: 37.84 Mbit/s
  95th percentile per-packet one-way delay: 142.525 ms
  Loss rate: 1.47%
-- Flow 3:
  Average throughput: 57.29 Mbit/s
  95th percentile per-packet one-way delay: 140.331 ms
  Loss rate: 3.43%
Run 8: Report of TCP Vegas — Data Link
Run 9: Statistics of TCP Vegas

Start at: 2018-07-26 08:22:15
End at: 2018-07-26 08:22:46
Local clock offset: -0.041 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2018-07-26 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.97 Mbit/s
95th percentile per-packet one-way delay: 146.099 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 82.20 Mbit/s
95th percentile per-packet one-way delay: 146.094 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 79.82 Mbit/s
95th percentile per-packet one-way delay: 145.768 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 71.27 Mbit/s
95th percentile per-packet one-way delay: 146.865 ms
Loss rate: 3.38%
Run 9: Report of TCP Vegas — Data Link
Run 10: Statistics of TCP Vegas

Start at: 2018-07-26 08:48:44  
End at: 2018-07-26 08:49:14  
Local clock offset: -0.054 ms  
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-26 11:52:36  
# Datalink statistics  
-- Total of 3 flows:  
  Average throughput: 86.36 Mbit/s  
  95th percentile per-packet one-way delay: 149.081 ms  
  Loss rate: 1.33%  
-- Flow 1:  
  Average throughput: 61.78 Mbit/s  
  95th percentile per-packet one-way delay: 149.267 ms  
  Loss rate: 0.50%  
-- Flow 2:  
  Average throughput: 1.42 Mbit/s  
  95th percentile per-packet one-way delay: 141.760 ms  
  Loss rate: 3.25%  
-- Flow 3:  
  Average throughput: 72.56 Mbit/s  
  95th percentile per-packet one-way delay: 147.199 ms  
  Loss rate: 3.36%
Run 10: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2018-07-26 04:48:54
End at: 2018-07-26 04:49:24
Local clock offset: 0.145 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2018-07-26 11:53:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.69 Mbit/s
95th percentile per-packet one-way delay: 246.400 ms
Loss rate: 4.01%
-- Flow 1:
Average throughput: 141.44 Mbit/s
95th percentile per-packet one-way delay: 266.377 ms
Loss rate: 3.65%
-- Flow 2:
Average throughput: 64.85 Mbit/s
95th percentile per-packet one-way delay: 228.683 ms
Loss rate: 4.63%
-- Flow 3:
Average throughput: 109.76 Mbit/s
95th percentile per-packet one-way delay: 233.403 ms
Loss rate: 4.67%
Run 1: Report of Verus — Data Link

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

- **Flow 1 ingress** (mean 145.64 Mbit/s)
- **Flow 1 egress** (mean 141.44 Mbit/s)
- **Flow 2 ingress** (mean 66.75 Mbit/s)
- **Flow 2 egress** (mean 64.85 Mbit/s)
- **Flow 3 ingress** (mean 112.01 Mbit/s)
- **Flow 3 egress** (mean 109.76 Mbit/s)

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

- Flow 1 (95th percentile 266.38 ms)
- Flow 2 (95th percentile 228.68 ms)
- Flow 3 (95th percentile 233.40 ms)
Run 2: Statistics of Verus

Start at: 2018-07-26 05:16:08
End at: 2018-07-26 05:16:38
Local clock offset: 0.072 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-07-26 11:56:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 288.94 Mbit/s
95th percentile per-packet one-way delay: 219.824 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 176.66 Mbit/s
95th percentile per-packet one-way delay: 198.167 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 128.10 Mbit/s
95th percentile per-packet one-way delay: 228.039 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 86.67 Mbit/s
95th percentile per-packet one-way delay: 279.754 ms
Loss rate: 3.54%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2018-07-26 05:43:27
End at: 2018-07-26 05:43:57
Local clock offset: 0.082 ms
Remote clock offset: -0.32 ms

# Below is generated by plot.py at 2018-07-26 11:56:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 186.27 Mbit/s
  95th percentile per-packet one-way delay: 253.268 ms
  Loss rate: 2.21%
-- Flow 1:
  Average throughput: 112.55 Mbit/s
  95th percentile per-packet one-way delay: 254.401 ms
  Loss rate: 1.27%
-- Flow 2:
  Average throughput: 95.51 Mbit/s
  95th percentile per-packet one-way delay: 255.396 ms
  Loss rate: 3.72%
-- Flow 3:
  Average throughput: 36.10 Mbit/s
  95th percentile per-packet one-way delay: 219.592 ms
  Loss rate: 2.88%
Run 3: Report of Verus — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 112.87 Mbps)
  - Flow 2 ingress (mean 97.95 Mbps)
  - Flow 3 ingress (mean 33.07 Mbps)
  - Flow 1 egress (mean 112.55 Mbps)
  - Flow 2 egress (mean 95.51 Mbps)
  - Flow 3 egress (mean 36.10 Mbps)

- **Per-packet error (ms):**
  - Flow 1 (95th percentile 254.40 ms)
  - Flow 2 (95th percentile 255.40 ms)
  - Flow 3 (95th percentile 219.59 ms)
Run 4: Statistics of Verus

Start at: 2018-07-26 06:10:20
End at: 2018-07-26 06:10:50
Local clock offset: 1.74 ms
Remote clock offset: 0.442 ms

# Below is generated by plot.py at 2018-07-26 11:56:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 207.95 Mbit/s
95th percentile per-packet one-way delay: 294.602 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 141.78 Mbit/s
95th percentile per-packet one-way delay: 296.128 ms
Loss rate: 2.68%
-- Flow 2:
Average throughput: 85.04 Mbit/s
95th percentile per-packet one-way delay: 296.853 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 230.877 ms
Loss rate: 3.20%
Run 4: Report of Verus — Data Link

[Graph showing throughput and packet delay over time for different flows with labels for each flow in terms of mean throughput and 95th percentile delay.]

291
Run 5: Statistics of Verus

Start at: 2018-07-26 06:36:49
End at: 2018-07-26 06:37:19
Local clock offset: 0.067 ms
Remote clock offset: -0.311 ms

# Below is generated by plot.py at 2018-07-26 11:56:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 236.15 Mbit/s
95th percentile per-packet one-way delay: 256.697 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 169.89 Mbit/s
95th percentile per-packet one-way delay: 316.057 ms
Loss rate: 3.84%
-- Flow 2:
Average throughput: 83.17 Mbit/s
95th percentile per-packet one-way delay: 189.705 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 174.303 ms
Loss rate: 2.36%
Run 5: Report of Verus — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 175.06 Mbps)
- Flow 1 egress (mean 169.89 Mbps)
- Flow 2 ingress (mean 82.04 Mbps)
- Flow 2 egress (mean 83.17 Mbps)
- Flow 3 ingress (mean 35.79 Mbps)
- Flow 3 egress (mean 35.93 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 316.06 ms)
- Flow 2 (95th percentile 189.71 ms)
- Flow 3 (95th percentile 174.30 ms)
Run 6: Statistics of Verus

Start at: 2018-07-26 07:03:27
End at: 2018-07-26 07:03:57
Local clock offset: 0.127 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2018-07-26 11:56:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 230.67 Mbit/s
  95th percentile per-packet one-way delay: 371.664 ms
  Loss rate: 10.29%
-- Flow 1:
  Average throughput: 118.99 Mbit/s
  95th percentile per-packet one-way delay: 191.161 ms
  Loss rate: 1.07%
-- Flow 2:
  Average throughput: 128.58 Mbit/s
  95th percentile per-packet one-way delay: 399.276 ms
  Loss rate: 19.81%
-- Flow 3:
  Average throughput: 82.63 Mbit/s
  95th percentile per-packet one-way delay: 306.477 ms
  Loss rate: 13.38%
Run 6: Report of Verus — Data Link
Run 7: Statistics of Verus

Start at: 2018-07-26 07:30:08
End at: 2018-07-26 07:30:38
Local clock offset: 0.028 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2018-07-26 11:56:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.58 Mbit/s
95th percentile per-packet one-way delay: 191.642 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 154.11 Mbit/s
95th percentile per-packet one-way delay: 185.404 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 52.94 Mbit/s
95th percentile per-packet one-way delay: 205.850 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 36.14 Mbit/s
95th percentile per-packet one-way delay: 264.104 ms
Loss rate: 7.81%
Run 7: Report of Verus — Data Link

![Data Link Throughput Graph]

- Flow 1 ingress (mean 153.55 Mbit/s)
- Flow 1 egress (mean 154.11 Mbit/s)
- Flow 2 ingress (mean 52.23 Mbit/s)
- Flow 2 egress (mean 52.94 Mbit/s)
- Flow 3 ingress (mean 38.37 Mbit/s)
- Flow 3 egress (mean 36.14 Mbit/s)

![Data Link Delay Graph]

- Flow 1 (95th percentile 185.40 ms)
- Flow 2 (95th percentile 205.85 ms)
- Flow 3 (95th percentile 264.10 ms)
Run 8: Statistics of Verus

Start at: 2018-07-26 07:56:46
End at: 2018-07-26 07:57:16
Local clock offset: -0.045 ms
Remote clock offset: -0.467 ms

# Below is generated by plot.py at 2018-07-26 11:56:30
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 141.17 Mbit/s
  95th percentile per-packet one-way delay: 228.246 ms
  Loss rate: 1.64%
-- Flow 1:
  Average throughput: 62.92 Mbit/s
  95th percentile per-packet one-way delay: 176.720 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 101.96 Mbit/s
  95th percentile per-packet one-way delay: 248.377 ms
  Loss rate: 3.35%
-- Flow 3:
  Average throughput: 34.78 Mbit/s
  95th percentile per-packet one-way delay: 152.222 ms
  Loss rate: 0.12%
Run 8: Report of Verus — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 62.35 Mbps)
Flow 1 egress (mean 62.92 Mbps)
Flow 2 ingress (mean 104.09 Mbps)
Flow 2 egress (mean 101.96 Mbps)
Flow 3 ingress (mean 33.64 Mbps)
Flow 3 egress (mean 34.78 Mbps)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 176.72 ms)
Flow 2 (95th percentile 248.38 ms)
Flow 3 (95th percentile 152.22 ms)
Run 9: Statistics of Verus

Start at: 2018-07-26 08:23:41
End at: 2018-07-26 08:24:11
Local clock offset: 0.071 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2018-07-26 11:59:34
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 264.14 Mbit/s
  95th percentile per-packet one-way delay: 270.282 ms
  Loss rate: 1.95%
-- Flow 1:
  Average throughput: 180.23 Mbit/s
  95th percentile per-packet one-way delay: 267.542 ms
  Loss rate: 1.78%
-- Flow 2:
  Average throughput: 93.82 Mbit/s
  95th percentile per-packet one-way delay: 285.629 ms
  Loss rate: 1.34%
-- Flow 3:
  Average throughput: 72.12 Mbit/s
  95th percentile per-packet one-way delay: 216.000 ms
  Loss rate: 4.80%
Run 9: Report of Verus — Data Link

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

1. Throughput (Mbps):
   - Flow 1 ingress (mean 180.56 Mbps)
   - Flow 1 egress (mean 180.23 Mbps)
   - Flow 2 ingress (mean 93.78 Mbps)
   - Flow 2 egress (mean 93.82 Mbps)
   - Flow 3 ingress (mean 74.68 Mbps)
   - Flow 3 egress (mean 72.12 Mbps)

2. Delay (ms):
   - Flow 1 (95th percentile 267.54 ms)
   - Flow 2 (95th percentile 285.63 ms)
   - Flow 3 (95th percentile 216.00 ms)
Run 10: Statistics of Verus

Start at: 2018-07-26 08:50:05
End at: 2018-07-26 08:50:35
Local clock offset: 0.057 ms
Remote clock offset: 0.389 ms

# Below is generated by plot.py at 2018-07-26 11:59:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 207.37 Mbit/s
95th percentile per-packet one-way delay: 330.106 ms
Loss rate: 5.93%
-- Flow 1:
Average throughput: 135.83 Mbit/s
95th percentile per-packet one-way delay: 235.116 ms
Loss rate: 2.34%
-- Flow 2:
Average throughput: 46.09 Mbit/s
95th percentile per-packet one-way delay: 185.936 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 141.78 Mbit/s
95th percentile per-packet one-way delay: 391.047 ms
Loss rate: 18.89%
Run 10: Report of Verus — Data Link

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

**Throughput (Mbps)**
- Flow 1 ingress (mean 138.09 Mbit/s)
- Flow 1 egress (mean 135.83 Mbit/s)
- Flow 2 ingress (mean 45.72 Mbit/s)
- Flow 2 egress (mean 46.09 Mbit/s)
- Flow 3 ingress (mean 154.22 Mbit/s)
- Flow 3 egress (mean 141.78 Mbit/s)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 235.12 ms)
- Flow 2 (95th percentile 185.94 ms)
- Flow 3 (95th percentile 391.05 ms)
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-26 04:57:11
End at: 2018-07-26 04:57:41
Local clock offset: -0.058 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 492.00 Mbit/s
95th percentile per-packet one-way delay: 160.419 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 291.05 Mbit/s
95th percentile per-packet one-way delay: 167.921 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 248.14 Mbit/s
95th percentile per-packet one-way delay: 155.323 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 113.17 Mbit/s
95th percentile per-packet one-way delay: 142.080 ms
Loss rate: 4.79%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-26 05:24:32
End at: 2018-07-26 05:25:02
Local clock offset: 0.217 ms
Remote clock offset: -0.392 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 473.04 Mbit/s
  95th percentile per-packet one-way delay: 152.222 ms
  Loss rate: 1.64%
-- Flow 1:
  Average throughput: 307.52 Mbit/s
  95th percentile per-packet one-way delay: 155.586 ms
  Loss rate: 1.06%
-- Flow 2:
  Average throughput: 194.49 Mbit/s
  95th percentile per-packet one-way delay: 147.164 ms
  Loss rate: 2.13%
-- Flow 3:
  Average throughput: 113.57 Mbit/s
  95th percentile per-packet one-way delay: 153.192 ms
  Loss rate: 4.64%
Run 2: Report of PCC-Vivace — Data Link

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

Start at: 2018-07-26 05:51:34
End at: 2018-07-26 05:52:04
Local clock offset: 0.114 ms
Remote clock offset: -0.259 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 437.37 Mbit/s
95th percentile per-packet one-way delay: 144.400 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 224.02 Mbit/s
95th percentile per-packet one-way delay: 138.648 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 261.34 Mbit/s
95th percentile per-packet one-way delay: 151.924 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 124.60 Mbit/s
95th percentile per-packet one-way delay: 159.928 ms
Loss rate: 4.69%
Run 3: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 224.24 Mbps)  Flow 1 egress (mean 224.02 Mbps)
Flow 2 ingress (mean 261.16 Mbps)  Flow 2 egress (mean 261.34 Mbps)
Flow 3 ingress (mean 127.11 Mbps)  Flow 3 egress (mean 124.69 Mbps)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 138.65 ms)  Flow 2 (95th percentile 151.92 ms)  Flow 3 (95th percentile 159.93 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-26 06:18:21
End at: 2018-07-26 06:18:51
Local clock offset: -0.304 ms
Remote clock offset: -0.269 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.60 Mbit/s
95th percentile per-packet one-way delay: 194.889 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 143.57 Mbit/s
95th percentile per-packet one-way delay: 137.163 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 268.49 Mbit/s
95th percentile per-packet one-way delay: 247.630 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 198.55 Mbit/s
95th percentile per-packet one-way delay: 201.493 ms
Loss rate: 5.09%
Run 4: Report of PCC-Vivace — Data Link

![Graphs showing data link performance metrics](image-url)
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-26 06:45:10
End at: 2018-07-26 06:45:40
Local clock offset: -0.025 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 388.38 Mbit/s
  95th percentile per-packet one-way delay: 142.853 ms
  Loss rate: 1.96%
-- Flow 1:
  Average throughput: 226.77 Mbit/s
  95th percentile per-packet one-way delay: 192.335 ms
  Loss rate: 1.77%
-- Flow 2:
  Average throughput: 183.17 Mbit/s
  95th percentile per-packet one-way delay: 139.011 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 124.48 Mbit/s
  95th percentile per-packet one-way delay: 146.616 ms
  Loss rate: 4.28%
Run 5: Report of PCC-Vivace — Data Link
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-26 07:11:24
End at: 2018-07-26 07:11:54
Local clock offset: 0.116 ms
Remote clock offset: 0.317 ms

# Below is generated by plot.py at 2018-07-26 12:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.79 Mbit/s
95th percentile per-packet one-way delay: 306.556 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 228.52 Mbit/s
95th percentile per-packet one-way delay: 299.613 ms
Loss rate: 2.27%
-- Flow 2:
Average throughput: 204.96 Mbit/s
95th percentile per-packet one-way delay: 322.546 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 116.47 Mbit/s
95th percentile per-packet one-way delay: 137.004 ms
Loss rate: 3.90%
Run 6: Report of PCC-Vivace — Data Link
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-26 07:37:53
End at: 2018-07-26 07:38:23
Local clock offset: 0.061 ms
Remote clock offset: 0.297 ms

# Below is generated by plot.py at 2018-07-26 12:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.84 Mbit/s
95th percentile per-packet one-way delay: 140.122 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 221.18 Mbit/s
95th percentile per-packet one-way delay: 138.763 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 241.51 Mbit/s
95th percentile per-packet one-way delay: 141.080 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 119.55 Mbit/s
95th percentile per-packet one-way delay: 154.829 ms
Loss rate: 5.09%
Run 7: Report of PCC-Vivace — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 221.61 Mbps)  Flow 1 egress (mean 221.18 Mbps)
Flow 2 ingress (mean 242.45 Mbps)  Flow 2 egress (mean 241.51 Mbps)
Flow 3 ingress (mean 222.48 Mbps)  Flow 3 egress (mean 219.55 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 138.76 ms)  Flow 2 (95th percentile 141.08 ms)  Flow 3 (95th percentile 154.03 ms)
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-26 08:04:51
End at: 2018-07-26 08:05:21
Local clock offset: 0.067 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-07-26 12:08:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 396.68 Mbit/s
  95th percentile per-packet one-way delay: 143.753 ms
  Loss rate: 1.53%
-- Flow 1:
  Average throughput: 221.68 Mbit/s
  95th percentile per-packet one-way delay: 136.443 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 177.54 Mbit/s
  95th percentile per-packet one-way delay: 151.244 ms
  Loss rate: 1.78%
-- Flow 3:
  Average throughput: 177.63 Mbit/s
  95th percentile per-packet one-way delay: 245.824 ms
  Loss rate: 3.26%
Run 8: Report of PCC-Vivace — Data Link

![Graphs showing throughput and packet delay for different flows.](image-url)
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-26 08:31:29
End at: 2018-07-26 08:31:59
Local clock offset: -0.204 ms
Remote clock offset: 0.337 ms

# Below is generated by plot.py at 2018-07-26 12:09:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.07 Mbit/s
95th percentile per-packet one-way delay: 139.204 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 242.90 Mbit/s
95th percentile per-packet one-way delay: 139.315 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 174.82 Mbit/s
95th percentile per-packet one-way delay: 137.517 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 112.76 Mbit/s
95th percentile per-packet one-way delay: 143.011 ms
Loss rate: 4.94%
Run 9: Report of PCC-Vivace — Data Link
Run 10: Statistics of PCC-Vivace

Start at: 2018-07-26 08:57:43
End at: 2018-07-26 08:58:13
Local clock offset: -0.229 ms
Remote clock offset: 0.419 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 415.61 Mbit/s
95th percentile per-packet one-way delay: 139.729 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 264.08 Mbit/s
95th percentile per-packet one-way delay: 152.665 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 170.55 Mbit/s
95th percentile per-packet one-way delay: 136.697 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 119.80 Mbit/s
95th percentile per-packet one-way delay: 143.363 ms
Loss rate: 4.94%
Run 10: Report of PCC-Vivace — Data Link

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

**Throughput (Mbit/s)**
- Flow 1 ingress (mean 264.39 Mbit/s)
- Flow 1 egress (mean 264.08 Mbit/s)
- Flow 2 ingress (mean 171.01 Mbit/s)
- Flow 2 egress (mean 170.55 Mbit/s)
- Flow 3 ingress (mean 122.52 Mbit/s)
- Flow 3 egress (mean 119.60 Mbit/s)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 152.66 ms)
- Flow 2 (95th percentile 136.70 ms)
- Flow 3 (95th percentile 143.36 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-07-26 04:52:43
End at: 2018-07-26 04:53:13
Local clock offset: -0.157 ms
Remote clock offset: -0.345 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 136.406 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 136.429 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 135.795 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.371 ms
Loss rate: 3.43%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Start at: 2018-07-26 05:20:03
End at: 2018-07-26 05:20:33
Local clock offset: -0.045 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 136.411 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 135.875 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 136.450 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.310 ms
Loss rate: 1.43%
Run 2: Report of WebRTC media — Data Link

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

- Flow 1 ingress (mean 1.06 Mbit/s)
- Flow 1 egress (mean 1.84 Mbit/s)
- Flow 2 ingress (mean 1.13 Mbit/s)
- Flow 2 egress (mean 1.12 Mbit/s)
- Flow 3 ingress (mean 0.39 Mbit/s)
- Flow 3 egress (mean 0.39 Mbit/s)

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

- Flow 1 (95th percentile 135.88 ms)
- Flow 2 (95th percentile 136.45 ms)
- Flow 3 (95th percentile 136.31 ms)
Run 3: Statistics of WebRTC media

Start at: 2018-07-26 05:47:18
End at: 2018-07-26 05:47:48
Local clock offset: 0.1 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 136.597 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 136.598 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 136.614 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 135.877 ms
Loss rate: 1.42%
Run 3: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.87 Mbit/s)
Flow 1 egress (mean 1.85 Mbit/s)
Flow 2 ingress (mean 1.11 Mbit/s)
Flow 2 egress (mean 1.10 Mbit/s)
Flow 3 ingress (mean 0.38 Mbit/s)
Flow 3 egress (mean 0.38 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 136.60 ms)
Flow 2 (95th percentile 136.61 ms)
Flow 3 (95th percentile 135.88 ms)
Run 4: Statistics of WebRTC media

Start at: 2018-07-26 06:14:10
End at: 2018-07-26 06:14:40
Local clock offset: -0.206 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 135.896 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 135.820 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 135.935 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 136.059 ms
Loss rate: 4.16%
Run 4: Report of WebRTC media — Data Link

The graphs show the throughput and per-packet one-way delay over time for different flows.

Throughput Graph:
- Flow 1 ingress (mean 1.87 Mbit/s)
- Flow 1 egress (mean 1.86 Mbit/s)
- Flow 2 ingress (mean 1.13 Mbit/s)
- Flow 2 egress (mean 1.12 Mbit/s)
- Flow 3 ingress (mean 0.38 Mbit/s)
- Flow 3 egress (mean 0.36 Mbit/s)

Per-packet one-way delay Graph:
- Flow 1 (95th percentile 135.82 ms)
- Flow 2 (95th percentile 135.94 ms)
- Flow 3 (95th percentile 136.06 ms)
Run 5: Statistics of WebRTC media

Start at: 2018-07-26 06:40:43
End at: 2018-07-26 06:41:13
Local clock offset: 0.175 ms
Remote clock offset: 0.058 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 136.717 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 136.740 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 136.119 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 135.723 ms
Loss rate: 1.77%
Run 5: Report of WebRTC media — Data Link

Throughput in Mbps:

- Flow 1 ingress (mean 1.08 Mbps)
- Flow 1 egress (mean 1.87 Mbps)
- Flow 2 ingress (mean 1.11 Mbps)
- Flow 2 egress (mean 1.09 Mbps)
- Flow 3 ingress (mean 0.37 Mbps)
- Flow 3 egress (mean 0.37 Mbps)

Pre-packet one-way delay (ms):

- Flow 1 (95th percentile 136.74 ms)
- Flow 2 (95th percentile 136.12 ms)
- Flow 3 (95th percentile 135.72 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-07-26 07:07:12
End at: 2018-07-26 07:07:42
Local clock offset: -0.028 ms
Remote clock offset: 0.254 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 136.487 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 136.511 ms
Loss rate: 1.76%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 136.411 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 136.432 ms
Loss rate: 5.09%
Run 6: Report of WebRTC media — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.48 Mbit/s)
Flow 1 egress (mean 1.82 Mbit/s)
Flow 2 ingress (mean 1.10 Mbit/s)
Flow 2 egress (mean 1.19 Mbit/s)
Flow 3 ingress (mean 0.38 Mbit/s)
Flow 3 egress (mean 0.37 Mbit/s)

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

Time (s)

Flow 1 (95th percentile 136.51 ms)
Flow 2 (95th percentile 136.41 ms)
Flow 3 (95th percentile 136.43 ms)
Run 7: Statistics of WebRTC media

Start at: 2018-07-26 07:33:49
End at: 2018-07-26 07:34:19
Local clock offset: 0.085 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 136.779 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 136.647 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 136.821 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.647 ms
Loss rate: 5.58%
Run 7: Report of WebRTC media — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 1.87 Mbit/s)
  - Flow 1 egress (mean 1.85 Mbit/s)
  - Flow 2 ingress (mean 1.14 Mbit/s)
  - Flow 2 egress (mean 1.12 Mbit/s)
  - Flow 3 ingress (mean 0.39 Mbit/s)
  - Flow 3 egress (mean 0.38 Mbit/s)

- **Packet delay (ms)**
  - Flow 1 (95th percentile 136.65 ms)
  - Flow 2 (95th percentile 136.82 ms)
  - Flow 3 (95th percentile 136.65 ms)
Run 8: Statistics of WebRTC media

Start at: 2018-07-26 08:00:24
End at: 2018-07-26 08:00:54
Local clock offset: -0.113 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.28 Mbit/s
  95th percentile per-packet one-way delay: 136.361 ms
  Loss rate: 1.83%
-- Flow 1:
  Average throughput: 1.83 Mbit/s
  95th percentile per-packet one-way delay: 135.816 ms
  Loss rate: 1.72%
-- Flow 2:
  Average throughput: 1.12 Mbit/s
  95th percentile per-packet one-way delay: 136.414 ms
  Loss rate: 1.78%
-- Flow 3:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 135.453 ms
  Loss rate: 2.56%
Run 8: Report of WebRTC media — Data Link
Run 9: Statistics of WebRTC media

Start at: 2018-07-26 08:27:25
End at: 2018-07-26 08:27:55
Local clock offset: -0.076 ms
Remote clock offset: 0.28 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 135.447 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 135.456 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 135.424 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 135.190 ms
Loss rate: 5.02%
Run 9: Report of WebRTC media — Data Link

[Graph showing throughput and packet loss over time for different flows, with markers for mean values and percentile delays.]
Run 10: Statistics of WebRTC media

Start at: 2018-07-26 08:53:31
End at: 2018-07-26 08:54:01
Local clock offset: 0.093 ms
Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2018-07-26 12:09:16
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.29 Mbit/s
  95th percentile per-packet one-way delay: 136.746 ms
  Loss rate: 1.87%
-- Flow 1:
  Average throughput: 1.84 Mbit/s
  95th percentile per-packet one-way delay: 135.888 ms
  Loss rate: 1.28%
-- Flow 2:
  Average throughput: 1.11 Mbit/s
  95th percentile per-packet one-way delay: 136.575 ms
  Loss rate: 1.99%
-- Flow 3:
  Average throughput: 0.37 Mbit/s
  95th percentile per-packet one-way delay: 136.850 ms
  Loss rate: 4.48%
Run 10: Report of WebRTC media — Data Link

![Graph showing WebRTC media throughput and delay over time]

- Flow 1 ingress (mean 1.85 Mbit/s)
- Flow 1 egress (mean 1.84 Mbit/s)
- Flow 2 ingress (mean 1.12 Mbit/s)
- Flow 2 egress (mean 1.11 Mbit/s)
- Flow 3 ingress (mean 0.38 Mbit/s)
- Flow 3 egress (mean 0.37 Mbit/s)

![Graph showing WebRTC media per-packet one-way delay over time]

- Flow 1 (95th percentile 135.89 ms)
- Flow 2 (95th percentile 136.57 ms)
- Flow 3 (95th percentile 136.65 ms)