Pantheon Report

Generated at 2019-04-24 08:30:12 (UTC).
Data path: GCE Tokyo on ens4 (remote) → GCE Iowa on ens4 (local).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against time.google.com and have been applied
to correct the timestamps in logs.

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

Git summary:
branch: muses @ 7a686f7c2ed0a333082c05c921ab947e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a324519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbfe58e62f4
third_party/indigo @ 2601c92e4aa9d58d384dfe0ecdbf90c077e64d
third_party/libutp @ b3465b94e2826f2b179eaab4a906ce66b75c3f
third_party/muses @ 5ce7221187ad823da2095537730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e02bd
third_party/pcc @ 1afc958fa0d6618b623c091a55fecd72b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fb2c4e24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3c2f4
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3b4b2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4ad6d18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutcomm.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Tokyo to GCE Iowa, 5 runs of 30s each per scheme (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>TCP BBR</td>
<td>5</td>
<td>507.99</td>
<td>157.84</td>
<td>1.25</td>
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<td>Copa</td>
<td>5</td>
<td>281.34</td>
<td>73.74</td>
<td>0.43</td>
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<td>TCP Cubic</td>
<td>5</td>
<td>474.55</td>
<td>85.96</td>
<td>0.41</td>
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<td>FillP</td>
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<td>897.77</td>
<td>101.32</td>
<td>0.69</td>
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<td>FillP-Sheep</td>
<td>5</td>
<td>869.62</td>
<td>111.70</td>
<td>0.97</td>
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<td>Indigo</td>
<td>5</td>
<td>219.17</td>
<td>64.10</td>
<td>0.46</td>
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<td>Indigo-MusesC3</td>
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<td>574.42</td>
<td>77.19</td>
<td>0.46</td>
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<tr>
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<td>0.53</td>
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<td>91.46</td>
<td>0.47</td>
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<td>117.00</td>
<td>0.57</td>
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<td>LEDBAT</td>
<td>5</td>
<td>23.06</td>
<td>64.34</td>
<td>0.84</td>
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<td>PCC-Allegro</td>
<td>5</td>
<td>391.42</td>
<td>159.49</td>
<td>3.03</td>
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<td>PCC-Expr</td>
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<td>312.45</td>
<td>148.69</td>
<td>2.29</td>
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<td>QUIC Cubic</td>
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<td>60.57</td>
<td>63.17</td>
<td>0.71</td>
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<td>SCReAM</td>
<td>5</td>
<td>0.22</td>
<td>63.37</td>
<td>0.43</td>
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<td>Sprout</td>
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<td>6.81</td>
<td>63.78</td>
<td>0.42</td>
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<td>TaoVA-100x</td>
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<td>227.58</td>
<td>63.41</td>
<td>0.43</td>
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<td>324.49</td>
<td>66.04</td>
<td>0.32</td>
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<td>Verus</td>
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<td>160.62</td>
<td>141.57</td>
<td>0.37</td>
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<td>PCC-Vivace</td>
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<td>82.86</td>
<td>0.53</td>
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<td>WebRTC media</td>
<td>5</td>
<td>0.48</td>
<td>63.21</td>
<td>0.09</td>
</tr>
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</table>
Run 1: Statistics of TCP BBR

Local clock offset: -0.028 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-04-24 06:59:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 532.27 Mbit/s
95th percentile per-packet one-way delay: 157.749 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 532.27 Mbit/s
95th percentile per-packet one-way delay: 157.749 ms
Loss rate: 0.80%
Run 1: Report of TCP BBR — Data Link

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

- **Flow 1 ingress (mean 534.26 Mbps)**
- **Flow 1 egress (mean 532.27 Mbps)**

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

- **Flow 1 (95th percentile 157.75 ms)**
Run 2: Statistics of TCP BBR

Start at: 2019-04-24 04:51:44
End at: 2019-04-24 04:52:14
Local clock offset: -0.073 ms
Remote clock offset: -0.218 ms

# Below is generated by plot.py at 2019-04-24 06:59:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 520.22 Mbit/s
95th percentile per-packet one-way delay: 150.511 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 520.22 Mbit/s
95th percentile per-packet one-way delay: 150.511 ms
Loss rate: 1.42%
Run 2: Report of TCP BBR — Data Link

![Throughput plot](chart)

- Flow 1 ingress (mean 525.46 Mbit/s)
- Flow 1 egress (mean 520.22 Mbit/s)

![Packet delay plot](chart)

- Flow 1 (95th percentile 150.53 ms)
Run 3: Statistics of TCP BBR

Local clock offset: -0.056 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-04-24 06:59:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 522.68 Mbit/s
95th percentile per-packet one-way delay: 151.108 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 522.68 Mbit/s
95th percentile per-packet one-way delay: 151.108 ms
Loss rate: 1.13%
Run 3: Report of TCP BBR — Data Link

![Graph of throughput over time](image1)

![Graph of packet delay over time](image2)

- Flow 1 ingress (mean 526.45 Mbit/s)
- Flow 1 egress (mean 522.68 Mbit/s)

- Flow 1 (95th percentile 151.11 ms)
Run 4: Statistics of TCP BBR

Start at: 2019-04-24 05:53:23
End at: 2019-04-24 05:53:53
Local clock offset: -0.039 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-04-24 06:59:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 465.29 Mbit/s
95th percentile per-packet one-way delay: 171.306 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 465.29 Mbit/s
95th percentile per-packet one-way delay: 171.306 ms
Loss rate: 1.46%
Run 4: Report of TCP BBR — Data Link

![Graphs showing throughput and packet delay over time](image-url)
Run 5: Statistics of TCP BBR

Start at: 2019-04-24 06:24:10
End at: 2019-04-24 06:24:40
Local clock offset: -0.039 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-04-24 06:59:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 499.49 Mbit/s
95th percentile per-packet one-way delay: 158.516 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 499.49 Mbit/s
95th percentile per-packet one-way delay: 158.516 ms
Loss rate: 1.45%
Run 5: Report of TCP BBR — Data Link
Run 1: Statistics of Copa

Start at: 2019-04-24 04:07:33
End at: 2019-04-24 04:08:03
Local clock offset: -0.041 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2019-04-24 06:59:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 294.10 Mbit/s
95th percentile per-packet one-way delay: 69.950 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 294.10 Mbit/s
95th percentile per-packet one-way delay: 69.950 ms
Loss rate: 0.47%
Run 1: Report of Copa — Data Link

![Graph showing throughput and packet delay for Flow 1]

- Flow 1 ingress (mean 294.25 Mbit/s)
- Flow 1 egress (mean 294.10 Mbit/s)
Run 2: Statistics of Copa

Start at: 2019-04-24 04:38:02
End at: 2019-04-24 04:38:32
Local clock offset: -0.02 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2019-04-24 06:59:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.67 Mbit/s
95th percentile per-packet one-way delay: 68.487 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 231.67 Mbit/s
95th percentile per-packet one-way delay: 68.487 ms
Loss rate: 0.43%
Run 2: Report of Copa — Data Link

![Graph showing throughput and latency over time for Flow 1 ingress and egress.]
Run 3: Statistics of Copa

Start at: 2019-04-24 05:08:23
End at: 2019-04-24 05:08:53
Local clock offset: -0.102 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2019-04-24 06:59:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 297.57 Mbit/s
95th percentile per-packet one-way delay: 72.936 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 297.57 Mbit/s
95th percentile per-packet one-way delay: 72.936 ms
Loss rate: 0.46%
Run 3: Report of Copa — Data Link

![Graph showing throughput and delay over time]

- **Flow 1 ingress (mean 297.68 Mbit/s)**
- **Flow 1 egress (mean 297.57 Mbit/s)**
Run 4: Statistics of Copa

Start at: 2019-04-24 05:39:32
End at: 2019-04-24 05:40:02
Local clock offset: -0.051 ms
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2019-04-24 07:06:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 271.81 Mbit/s
95th percentile per-packet one-way delay: 73.623 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 271.81 Mbit/s
95th percentile per-packet one-way delay: 73.623 ms
Loss rate: 0.39%
Run 4: Report of Copa — Data Link
Run 5: Statistics of Copa

Start at: 2019-04-24 06:10:17
End at: 2019-04-24 06:10:47
Local clock offset: -0.029 ms
Remote clock offset: -0.925 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 311.57 Mbit/s
95th percentile per-packet one-way delay: 83.686 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 311.57 Mbit/s
95th percentile per-packet one-way delay: 83.686 ms
Loss rate: 0.42%
Run 5: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

End at: 2019-04-24 04:13:50
Local clock offset: -0.02 ms
Remote clock offset: -0.594 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 534.10 Mbit/s
95th percentile per-packet one-way delay: 106.705 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 534.10 Mbit/s
95th percentile per-packet one-way delay: 106.705 ms
Loss rate: 0.47%
Run 1: Report of TCP Cubic — Data Link

![Graph showing throughput over time for TCP Cubic flow 1 with ingress and egress data.]
Run 2: Statistics of TCP Cubic

End at: 2019-04-24 04:44:27
Local clock offset: -0.046 ms
Remote clock offset: 0.081 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 431.40 Mbit/s
95th percentile per-packet one-way delay: 69.812 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 431.40 Mbit/s
95th percentile per-packet one-way delay: 69.812 ms
Loss rate: 0.35%
Run 2: Report of TCP Cubic — Data Link

[Graphs showing network performance metrics]
Run 3: Statistics of TCP Cubic

Start at: 2019-04-24 05:14:30
End at: 2019-04-24 05:15:00
Local clock offset: -0.051 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 502.90 Mbit/s
95th percentile per-packet one-way delay: 77.934 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 502.90 Mbit/s
95th percentile per-packet one-way delay: 77.934 ms
Loss rate: 0.42%
Run 3: Report of TCP Cubic — Data Link

![Graph 1: Throughput vs Time]

- **Flow 1 ingress (mean 502.88 Mbit/s)**
- **Flow 1 egress (mean 502.90 Mbit/s)**

![Graph 2: Packet Delay vs Time]

- **Flow 1 (95th percentile 77.93 ms)**
Run 4: Statistics of TCP Cubic

Start at: 2019-04-24 05:45:33
End at: 2019-04-24 05:46:03
Local clock offset: -0.035 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 434.34 Mbit/s
95th percentile per-packet one-way delay: 98.123 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 434.34 Mbit/s
95th percentile per-packet one-way delay: 98.123 ms
Loss rate: 0.39%
Run 4: Report of TCP Cubic — Data Link

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

- **Flow 1 ingress (mean 434.11 Mbit/s)**
- **Flow 1 egress (mean 434.34 Mbit/s)**
Run 5: Statistics of TCP Cubic

Start at: 2019-04-24 06:16:20
End at: 2019-04-24 06:16:50
Local clock offset: -0.073 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-04-24 07:07:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 470.01 Mbit/s
95th percentile per-packet one-way delay: 77.211 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 470.01 Mbit/s
95th percentile per-packet one-way delay: 77.211 ms
Loss rate: 0.44%
Run 5: Report of TCP Cubic — Data Link

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

- Flow 1 ingress (mean 470.12 Mbps)
- Flow 1 egress (mean 470.01 Mbps)

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

- Flow 1 (95th percentile 77.21 ms)
Run 1: Statistics of FillP

Start at: 2019-04-24 04:18:02
End at: 2019-04-24 04:18:32
Local clock offset: -0.01 ms
Remote clock offset: -0.134 ms

# Below is generated by plot.py at 2019-04-24 07:16:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 908.25 Mbit/s
95th percentile per-packet one-way delay: 103.272 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 908.25 Mbit/s
95th percentile per-packet one-way delay: 103.272 ms
Loss rate: 0.58%
Run 1: Report of FillP — Data Link

![Graph 1: Throughput vs Time for Flow 1 Ingress and Egress](image1)

- Flow 1 Ingress (mean 909.71 Mbit/s)
- Flow 1 Egress (mean 908.52 Mbit/s)

![Graph 2: Per-Packet One-Way Delay](image2)

- Flow 1 (95th percentile: 103.27 ms)
Run 2: Statistics of FillP

End at: 2019-04-24 04:49:02
Local clock offset: -0.055 ms
Remote clock offset: 0.051 ms

# Below is generated by plot.py at 2019-04-24 07:24:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 885.58 Mbit/s
95th percentile per-packet one-way delay: 101.332 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 885.58 Mbit/s
95th percentile per-packet one-way delay: 101.332 ms
Loss rate: 0.77%
Run 2: Report of FillP — Data Link

![Graph of throughput and delay]

- Flow 1 ingress (mean 888.65 Mb/s)
- Flow 1 egress (mean 885.58 Mb/s)

- Flow 1 (95th percentile 101.33 ms)
Run 3: Statistics of FillP

Start at: 2019-04-24 05:19:10
End at: 2019-04-24 05:19:40
Local clock offset: -0.05 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-04-24 07:26:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 954.83 Mbit/s
95th percentile per-packet one-way delay: 78.607 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 954.83 Mbit/s
95th percentile per-packet one-way delay: 78.607 ms
Loss rate: 0.41%
Run 3: Report of FillP — Data Link

Graph 1: Throughput vs. Time

Graph 2: Per packet one-way delay vs. Time

Legend:
- Flow 1 ingress (mean 954.68 Mbits/s)
- Flow 1 egress (mean 954.83 Mbits/s)
- Flow 1 (95th percentile 78.61 ms)
Run 4: Statistics of FillP

Start at: 2019-04-24 05:50:11
End at: 2019-04-24 05:50:41
Local clock offset: ~0.042 ms
Remote clock offset: ~0.013 ms

# Below is generated by plot.py at 2019-04-24 07:26:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 888.16 Mbit/s
95th percentile per-packet one-way delay: 106.755 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 888.16 Mbit/s
95th percentile per-packet one-way delay: 106.755 ms
Loss rate: 0.59%
Run 4: Report of FillP — Data Link

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

- Flow 1 ingress (mean 889.62 Mbps)
- Flow 1 egress (mean 888.16 Mbps)

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

- Flow 1 (95th percentile 106.75 ms)
Run 5: Statistics of FillP

Start at: 2019-04-24 06:20:57
End at: 2019-04-24 06:21:27
Local clock offset: ~0.059 ms
Remote clock offset: ~0.168 ms

# Below is generated by plot.py at 2019-04-24 07:26:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 852.03 Mbit/s
95th percentile per-packet one-way delay: 116.626 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 852.03 Mbit/s
95th percentile per-packet one-way delay: 116.626 ms
Loss rate: 1.12%
Run 5: Report of FillP — Data Link

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

- Flow 1 ingress (mean 838.07 Mbit/s)
- Flow 1 egress (mean 852.03 Mbit/s)

![Graph 2: Latency vs Time](image2.png)

- Flow 1 (95th percentile 116.63 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-04-24 04:10:16
End at: 2019-04-24 04:10:46
Local clock offset: -0.008 ms
Remote clock offset: 0.153 ms

# Below is generated by plot.py at 2019-04-24 07:26:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 876.21 Mbit/s
95th percentile per-packet one-way delay: 124.052 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 876.21 Mbit/s
95th percentile per-packet one-way delay: 124.052 ms
Loss rate: 1.88%
Run 1: Report of FillP-Sheep — Data Link

![Graph showing throughput and per-packet one-way delay over time for run 1. The graphs display data for Flow 1 ingoing and egressing.]
Run 2: Statistics of FillP-Sheep

Start at: 2019-04-24 04:40:40
End at: 2019-04-24 04:41:10
Local clock offset: -0.049 ms
Remote clock offset: -0.226 ms

# Below is generated by plot.py at 2019-04-24 07:26:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 828.12 Mbit/s
95th percentile per-packet one-way delay: 119.283 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 828.12 Mbit/s
95th percentile per-packet one-way delay: 119.283 ms
Loss rate: 0.89%
Run 2: Report of FillP-Sheep — Data Link

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

- Flow 1 ingress (mean 832.01 Mbps)
- Flow 1 egress (mean 828.12 Mbps)

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

- Flow 1 (95th percentile 119.28 ms)
Run 3: Statistics of FillP-Sheep

Start at: 2019-04-24 05:11:09
End at: 2019-04-24 05:11:39
Local clock offset: -0.08 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-04-24 07:26:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 881.43 Mbit/s
95th percentile per-packet one-way delay: 98.385 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 881.43 Mbit/s
95th percentile per-packet one-way delay: 98.385 ms
Loss rate: 0.60%
Run 3: Report of FillP-Sheep — Data Link
Run 4: Statistics of FillP-Sheep

End at: 2019-04-24 05:42:43
Local clock offset: -0.05 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-04-24 07:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 888.96 Mbit/s
95th percentile per-packet one-way delay: 96.970 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 888.96 Mbit/s
95th percentile per-packet one-way delay: 96.970 ms
Loss rate: 0.54%
Run 4: Report of FillP-Sheep — Data Link
Run 5: Statistics of FillP-Sheep

Start at: 2019-04-24 06:13:03
End at: 2019-04-24 06:13:33
Local clock offset: -0.064 ms
Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 873.37 Mbit/s
95th percentile per-packet one-way delay: 119.805 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 873.37 Mbit/s
95th percentile per-packet one-way delay: 119.805 ms
Loss rate: 0.96%
Run 5: Report of FillP-Sheep — Data Link
Run 1: Statistics of Indigo

Start at: 2019-04-24 04:33:54
End at: 2019-04-24 04:34:24
Local clock offset: 0.019 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.42 Mbit/s
95th percentile per-packet one-way delay: 64.206 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 214.42 Mbit/s
95th percentile per-packet one-way delay: 64.206 ms
Loss rate: 0.42%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2019-04-24 05:04:34
End at: 2019-04-24 05:05:04
Local clock offset: -0.099 ms
Remote clock offset: -0.266 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 217.56 Mbit/s
  95th percentile per-packet one-way delay: 65.281 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 217.56 Mbit/s
  95th percentile per-packet one-way delay: 65.281 ms
  Loss rate: 0.47%
Run 2: Report of Indigo — Data Link

![Throughput Graph]

Flow 1 ingress (mean 217.60 Mbit/s)  Flow 1 egress (mean 217.56 Mbit/s)

![Packet Delay Graph]

Flow 1 (95th percentile 65.28 ms)
Run 3: Statistics of Indigo

Start at: 2019-04-24 05:35:22
End at: 2019-04-24 05:35:52
Local clock offset: -0.034 ms
Remote clock offset: 0.473 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.92 Mbit/s
95th percentile per-packet one-way delay: 63.538 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 218.92 Mbit/s
95th percentile per-packet one-way delay: 63.538 ms
Loss rate: 0.47%
Run 3: Report of Indigo — Data Link
Run 4: Statistics of Indigo

Start at: 2019-04-24 06:06:07
End at: 2019-04-24 06:06:38
Local clock offset: -0.084 ms
Remote clock offset: 0.408 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 224.12 Mbit/s
95th percentile per-packet one-way delay: 63.672 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 224.12 Mbit/s
95th percentile per-packet one-way delay: 63.672 ms
Loss rate: 0.48%
Run 4: Report of Indigo — Data Link
Run 5: Statistics of Indigo

Start at: 2019-04-24 06:36:47
End at: 2019-04-24 06:37:17
Local clock offset: -0.022 ms
Remote clock offset: 0.251 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.82 Mbit/s
95th percentile per-packet one-way delay: 63.825 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 220.82 Mbit/s
95th percentile per-packet one-way delay: 63.825 ms
Loss rate: 0.47%
Run 5: Report of Indigo — Data Link

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

- **Flow 1 ingress (mean 220.91 Mbps)**
- **Flow 1 egress (mean 220.82 Mbps)**

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

- **Flow 1 (95th percentile 63.83 ms)**
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-04-24 04:12:00
End at: 2019-04-24 04:12:30
Local clock offset: -0.027 ms
Remote clock offset: -0.639 ms
Run 1: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 411.55 Mbit/s)  Flow 1 egress (mean 410.52 Mbit/s)

Packet rate (pps)

Time (s)

Flow 1 (95th percentile 82.63 ms)
Run 2: Statistics of Indigo-MusesC3

End at: 2019-04-24 04:42:52
Local clock offset: -0.058 ms
Remote clock offset: 0.609 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.69 Mbit/s
95th percentile per-packet one-way delay: 77.913 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 578.69 Mbit/s
95th percentile per-packet one-way delay: 77.913 ms
Loss rate: 0.48%
Run 2: Report of Indigo-MusesC3 — Data Link

![Graph](image1)

![Graph](image2)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-04-24 05:12:54  
End at: 2019-04-24 05:13:24
Local clock offset: -0.057 ms  
Remote clock offset: 0.05 ms

# Below is generated by plot.py at 2019-04-24 07:43:41  
# Datalink statistics
-- Total of 1 flow:
Average throughput: 567.42 Mbit/s  
95th percentile per-packet one-way delay: 75.272 ms  
Loss rate: 0.40%
-- Flow 1:
Average throughput: 567.42 Mbit/s  
95th percentile per-packet one-way delay: 75.272 ms  
Loss rate: 0.40%
Run 3: Report of Indigo-MusesC3 — Data Link
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-04-24 05:43:57
End at: 2019-04-24 05:44:27
Local clock offset: -0.032 ms
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 596.47 Mbit/s
95th percentile per-packet one-way delay: 81.015 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 596.47 Mbit/s
95th percentile per-packet one-way delay: 81.015 ms
Loss rate: 0.45%
Run 4: Report of Indigo-MusesC3 — Data Link

- Throughput (Mbps)
  - Flow 1 ingress (mean 596.48 Mbps)
  - Flow 1 egress (mean 596.47 Mbps)

- Per packet one-way delay (ms)
  - Flow 1 (95th percentile 81.02 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-04-24 06:14:46
End at: 2019-04-24 06:15:16
Local clock offset: -0.032 ms
Remote clock offset: 0.189 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 555.10 Mbit/s
95th percentile per-packet one-way delay: 74.565 ms
Loss rate: 0.52%

-- Flow 1:
Average throughput: 555.10 Mbit/s
95th percentile per-packet one-way delay: 74.565 ms
Loss rate: 0.52%
Run 5: Report of Indigo-MusesC3 — Data Link

![Graph 1](image1)

- **Flow 1 ingress (mean 555.51 Mbit/s)**
- **Flow 1 egress (mean 555.10 Mbit/s)**

![Graph 2](image2)

- **Flow 1 (95th percentile 74.56 ms)**
Run 1: Statistics of Indigo-MusesC5

End at: 2019-04-24 04:23:19
Local clock offset: -0.036 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-04-24 07:43:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 571.56 Mbit/s
95th percentile per-packet one-way delay: 94.609 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 571.56 Mbit/s
95th percentile per-packet one-way delay: 94.609 ms
Loss rate: 0.56%
Run 1: Report of Indigo-MusesC5 — Data Link

The graphs show the throughput (Mbps) and per-packet one-way delay (ms) over time for Flow 1. The throughput graph indicates fluctuations in data transmission rates, with peaks and troughs that correlate with time. The per-packet one-way delay graph shows a distribution of delays, with some spikes indicating higher delays at certain times.

Flow 1 ingress (mean 572.18 Mbit/s) and Flow 1 egress (mean 571.56 Mbit/s) are shown in the throughput graph.

Flow 1 (95th percentile 94.61 ms) is shown in the one-way delay graph.
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-04-24 04:53:21
End at: 2019-04-24 04:53:51
Local clock offset: -0.079 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2019-04-24 07:43:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 586.37 Mbit/s
95th percentile per-packet one-way delay: 94.883 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 586.37 Mbit/s
95th percentile per-packet one-way delay: 94.883 ms
Loss rate: 0.59%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-04-24 05:24:04
End at: 2019-04-24 05:24:34
Local clock offset: -0.05 ms
Remote clock offset: 0.32 ms

# Below is generated by plot.py at 2019-04-24 07:49:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 587.84 Mbit/s
95th percentile per-packet one-way delay: 96.976 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 587.84 Mbit/s
95th percentile per-packet one-way delay: 96.976 ms
Loss rate: 0.51%
Run 3: Report of Indigo-MusesC5 — Data Link
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-04-24 05:54:57
Local clock offset: -0.06 ms
Remote clock offset: -0.326 ms

# Below is generated by plot.py at 2019-04-24 07:51:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 590.55 Mbit/s
95th percentile per-packet one-way delay: 100.037 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 590.55 Mbit/s
95th percentile per-packet one-way delay: 100.037 ms
Loss rate: 0.54%
Run 4: Report of Indigo-MusesC5 — Data Link

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

- **Flow 1 ingress (mean 591.13 Mbit/s)**
- **Flow 1 egress (mean 590.55 Mbit/s)**

![Graph 2: Per Packet One Way Delay vs. Time](image2)

- **Flow 1 (95th percentile 100.04 ms)**
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-04-24 06:25:45
End at: 2019-04-24 06:26:16
Local clock offset: -0.037 ms
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2019-04-24 07:52:23
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 605.01 Mbit/s
  95th percentile per-packet one-way delay: 82.673 ms
  Loss rate: 0.43%
-- Flow 1:
  Average throughput: 605.01 Mbit/s
  95th percentile per-packet one-way delay: 82.673 ms
  Loss rate: 0.43%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

Start at: 2019-04-24 04:29:50
End at: 2019-04-24 04:30:20
Local clock offset: 0.012 ms
Remote clock offset: -0.246 ms

# Below is generated by plot.py at 2019-04-24 07:52:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 511.08 Mbit/s
95th percentile per-packet one-way delay: 100.784 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 511.08 Mbit/s
95th percentile per-packet one-way delay: 100.784 ms
Loss rate: 0.47%
Run 1: Report of Indigo-MusesD — Data Link

![Graph 1](image1.png)

- Flow 1 ingress (mean 511.16 Mbit/s)
- Flow 1 egress (mean 511.08 Mbit/s)

![Graph 2](image2.png)

- Flow 1 (95th percentile 100.78 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-04-24 05:00:31
End at: 2019-04-24 05:01:01
Local clock offset: -0.091 ms
Remote clock offset: -0.449 ms

# Below is generated by plot.py at 2019-04-24 07:52:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 525.99 Mbit/s
95th percentile per-packet one-way delay: 83.573 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 525.99 Mbit/s
95th percentile per-packet one-way delay: 83.573 ms
Loss rate: 0.44%
Run 2: Report of Indigo-MusesD — Data Link
Run 3: Statistics of Indigo-MusesD

Start at: 2019-04-24 05:31:15
End at: 2019-04-24 05:31:45
Local clock offset: -0.019 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-04-24 07:53:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 556.47 Mbit/s
95th percentile per-packet one-way delay: 88.900 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 556.47 Mbit/s
95th percentile per-packet one-way delay: 88.900 ms
Loss rate: 0.67%
Run 3: Report of Indigo-MusesD — Data Link

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[Graphs showing throughput and packet delay over time]

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Flow 1 ingress (mean 557.74 Mbit/s)  Flow 1 egress (mean 556.47 Mbit/s)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-04-24 06:02:04
End at: 2019-04-24 06:02:34
Local clock offset: -0.057 ms
Remote clock offset: 0.329 ms

# Below is generated by plot.py at 2019-04-24 07:53:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.99 Mbit/s
95th percentile per-packet one-way delay: 96.867 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 521.99 Mbit/s
95th percentile per-packet one-way delay: 96.867 ms
Loss rate: 0.39%
Run 4: Report of Indigo-MusesD — Data Link

![Graph showing throughput and median packet end-to-end delay over time.]

Throughput (Mbps)

0 5 10 15 20 25

Time (s)

Flow 1 ingress (mean 521.76 Mbit/s)  Flow 1 egress (mean 521.99 Mbit/s)

Median packet end-to-end delay (ms)

0 5 10 15 20 25

Time (s)

Flow 1 (95th percentile 96.87 ms)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-04-24 06:32:46
End at: 2019-04-24 06:33:16
Local clock offset: -0.065 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-04-24 07:53:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 481.66 Mbit/s
95th percentile per-packet one-way delay: 87.172 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 481.66 Mbit/s
95th percentile per-packet one-way delay: 87.172 ms
Loss rate: 0.40%
Run 5: Report of Indigo-MusesD — Data Link
Run 1: Statistics of Indigo-MuseST

Start at: 2019-04-24 04:16:24
End at: 2019-04-24 04:16:54
Local clock offset: 0.002 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-04-24 08:00:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 634.01 Mbit/s
95th percentile per-packet one-way delay: 117.678 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 634.01 Mbit/s
95th percentile per-packet one-way delay: 117.678 ms
Loss rate: 0.53%
Run 2: Statistics of Indigo-MusesT

Start at: 2019-04-24 04:46:56
End at: 2019-04-24 04:47:26
Local clock offset: -0.059 ms
Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2019-04-24 08:00:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 583.74 Mbit/s
95th percentile per-packet one-way delay: 124.882 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 583.74 Mbit/s
95th percentile per-packet one-way delay: 124.882 ms
Loss rate: 0.61%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-04-24 05:17:32
End at: 2019-04-24 05:18:02
Local clock offset: -0.06 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-04-24 08:01:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 639.82 Mbit/s
95th percentile per-packet one-way delay: 124.431 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 639.82 Mbit/s
95th percentile per-packet one-way delay: 124.431 ms
Loss rate: 0.58%
Run 3: Report of Indigo-MusesT — Data Link

![Graph showing throughput and packet delay over time for Flow 1 ingress and egress.]
Run 4: Statistics of Indigo-MusesT

Start at: 2019-04-24 05:48:33
End at: 2019-04-24 05:49:03
Local clock offset: -0.06 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-04-24 08:02:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 639.31 Mbit/s
95th percentile per-packet one-way delay: 111.921 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 639.31 Mbit/s
95th percentile per-packet one-way delay: 111.921 ms
Loss rate: 0.59%
Run 4: Report of Indigo-MusesT — Data Link

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

- Flow 1 ingress (mean 640.24 Mbit/s)
- Flow 1 egress (mean 639.31 Mbit/s)

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

- Flow 1 (95th percentile 111.92 ms)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-04-24 06:19:19
End at: 2019-04-24 06:19:49
Local clock offset: -0.051 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 628.97 Mbit/s
95th percentile per-packet one-way delay: 106.112 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 628.97 Mbit/s
95th percentile per-packet one-way delay: 106.112 ms
Loss rate: 0.56%
Run 5: Report of Indigo-MusesT — Data Link

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

- **Flow 1 ingress (mean 629.67 Mbit/s)**
- **Flow 1 egress (mean 628.97 Mbit/s)**

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

- **Flow 1 (95th percentile 106.11 ms)**
Run 1: Statistics of LEDBAT

Start at: 2019-04-24 04:06:22
End at: 2019-04-24 04:06:52
Local clock offset: ~0.043 ms
Remote clock offset: ~0.279 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.97 Mbit/s
95th percentile per-packet one-way delay: 64.538 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 22.97 Mbit/s
95th percentile per-packet one-way delay: 64.538 ms
Loss rate: 0.85%
Run 1: Report of LEDBAT — Data Link
Run 2: Statistics of LEDBAT

Start at: 2019-04-24 04:36:52
End at: 2019-04-24 04:37:22
Local clock offset: -0.041 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 64.679 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 64.679 ms
Loss rate: 0.84%
Run 2: Report of LEDBAT — Data Link

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

- **Flow 1 ingress (mean 23.16 Mb/s)**
- **Flow 1 egress (mean 23.07 Mb/s)**

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

- **Flow 1 (95th percentile 64.68 ms)**
Run 3: Statistics of LEDBAT

Start at: 2019-04-24 05:07:12
End at: 2019-04-24 05:07:42
Local clock offset: -0.064 ms
Remote clock offset: -0.335 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 22.98 Mbit/s
  95th percentile per-packet one-way delay: 64.488 ms
  Loss rate: 0.84%
-- Flow 1:
  Average throughput: 22.98 Mbit/s
  95th percentile per-packet one-way delay: 64.488 ms
  Loss rate: 0.84%
Run 3: Report of LEDBAT — Data Link

![Graph showing network performance metrics over time. The graphs depict throughput and one-way packet delay. The throughput is relatively stable with a steady increase, while the packet delay shows variability with occasional spikes. The details of the graphs include labels for Flow 1 ingress and egress, as well as specific values for mean and 95th percentile.]
Run 4: Statistics of LEDBAT

Start at: 2019-04-24 05:38:21
End at: 2019-04-24 05:38:51
Local clock offset: -0.035 ms
Remote clock offset: 0.153 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 63.886 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 63.886 ms
Loss rate: 0.83%
Run 4: Report of LEDBAT — Data Link

Graph 1: Throughput (Mbps) vs Time (s)
- Flow 1 ingress (mean 23.13 Mbps)
- Flow 1 egress (mean 23.04 Mbps)

Graph 2: Per-packet one-way delay (ms) vs Time (s)
- Flow 1 (95th percentile 63.89 ms)
Run 5: Statistics of LEDBAT

Start at: 2019-04-24 06:09:06
End at: 2019-04-24 06:09:36
Local clock offset: -0.04 ms
Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2019-04-24 08:02:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.22 Mbit/s
95th percentile per-packet one-way delay: 64.120 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 23.22 Mbit/s
95th percentile per-packet one-way delay: 64.120 ms
Loss rate: 0.84%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Local clock offset: -0.009 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-04-24 08:06:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 378.55 Mbit/s
95th percentile per-packet one-way delay: 95.642 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 378.55 Mbit/s
95th percentile per-packet one-way delay: 95.642 ms
Loss rate: 0.49%
Run 1: Report of PCC-Allegro — Data Link
Run 2: Statistics of PCC-Allegro

Start at: 2019-04-24 04:58:56
End at: 2019-04-24 04:59:26
Local clock offset: -0.102 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2019-04-24 08:07:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 403.29 Mbit/s
95th percentile per-packet one-way delay: 176.563 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 403.29 Mbit/s
95th percentile per-packet one-way delay: 176.563 ms
Loss rate: 1.85%
Run 2: Report of PCC-Allegro — Data Link
Run 3: Statistics of PCC-Allegro

Start at: 2019-04-24 05:29:38
End at: 2019-04-24 05:30:08
Local clock offset: -0.04 ms
Remote clock offset: -0.844 ms

# Below is generated by plot.py at 2019-04-24 08:10:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 448.21 Mbit/s
95th percentile per-packet one-way delay: 182.504 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 448.21 Mbit/s
95th percentile per-packet one-way delay: 182.504 ms
Loss rate: 5.38%
Run 3: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 471.69 Mbit/s)
- Flow 1 egress (mean 448.21 Mbit/s)

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

- Flow 1 (95th percentile 182.50 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2019-04-24 06:00:31
End at: 2019-04-24 06:01:01
Local clock offset: -0.026 ms
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2019-04-24 08:13:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 377.63 Mbit/s
95th percentile per-packet one-way delay: 136.795 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 377.63 Mbit/s
95th percentile per-packet one-way delay: 136.795 ms
Loss rate: 0.88%
Run 4: Report of PCC-Allegro — Data Link

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

- **Flow 1 ingress (mean 379.38 Mbit/s)**
- **Flow 1 egress (mean 377.63 Mbit/s)**

![Graph showing packet delay over time for Flow 1 with 95th percentile 136.79 ms.]
Run 5: Statistics of PCC-Allegro

Start at: 2019-04-24 06:31:15
End at: 2019-04-24 06:31:45
Local clock offset: -0.07 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2019-04-24 08:13:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.40 Mbit/s
95th percentile per-packet one-way delay: 205.932 ms
Loss rate: 6.57%
-- Flow 1:
Average throughput: 349.40 Mbit/s
95th percentile per-packet one-way delay: 205.932 ms
Loss rate: 6.57%
Run 5: Report of PCC-Allegro — Data Link

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

- Flow 1 ingress (mean 372.39 Mbit/s)
- Flow 1 egress (mean 349.40 Mbit/s)

- Flow 1 (95th percentile 205.93 ms)
Run 1: Statistics of PCC-Expr

Start at: 2019-04-24 04:26:40
End at: 2019-04-24 04:27:10
Local clock offset: 0.012 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2019-04-24 08:13:19
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 319.91 Mbit/s
  95th percentile per-packet one-way delay: 168.295 ms
  Loss rate: 3.64%
-- Flow 1:
  Average throughput: 319.91 Mbit/s
  95th percentile per-packet one-way delay: 168.295 ms
  Loss rate: 3.64%
Run 1: Report of PCC-Expr — Data Link

Graph 1: Time (s) vs. Throughput (Mbps)
- Flow 1 ingress (mean 330.57 Mbps)
- Flow 1 egress (mean 319.91 Mbps)

Graph 2: Time (s) vs. Per packet one way delay (ms)
- Flow 1 (95th percentile 168.29 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-04-24 04:57:17
End at: 2019-04-24 04:57:47
Local clock offset: -0.053 ms
Remote clock offset: -0.203 ms

# Below is generated by plot.py at 2019-04-24 08:13:28
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 326.82 Mbit/s
  95th percentile per-packet one-way delay: 183.186 ms
  Loss rate: 4.81%
-- Flow 1:
  Average throughput: 326.82 Mbit/s
  95th percentile per-packet one-way delay: 183.186 ms
  Loss rate: 4.81%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2019-04-24 05:28:01
End at: 2019-04-24 05:28:31
Local clock offset: -0.035 ms
Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2019-04-24 08:13:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 324.34 Mbit/s
95th percentile per-packet one-way delay: 156.548 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 324.34 Mbit/s
95th percentile per-packet one-way delay: 156.548 ms
Loss rate: 1.35%
Run 3: Report of PCC-Expr — Data Link

![Graph](image)

**Throughput (Mbps)**

- **Flow 1 ingress (mean 327.38 Mb/s)**
- **Flow 1 egress (mean 324.34 Mb/s)**

![Graph](image)

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

- **Flow 1 (95th percentile 156.55 ms)**
Run 4: Statistics of PCC-Expr

Start at: 2019-04-24 05:58:54
End at: 2019-04-24 05:59:24
Local clock offset: -0.046 ms
Remote clock offset: -0.713 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 321.78 Mbit/s
95th percentile per-packet one-way delay: 113.871 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 321.78 Mbit/s
95th percentile per-packet one-way delay: 113.871 ms
Loss rate: 0.59%
Run 4: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 322.52 Mbit/s)
- Flow 1 egress (mean 321.78 Mbit/s)

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

- Flow 1 (95th percentile 113.87 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-04-24 06:29:42
End at: 2019-04-24 06:30:12
Local clock offset: -0.065 ms
Remote clock offset: 0.194 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 269.42 Mbit/s
95th percentile per-packet one-way delay: 121.542 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 269.42 Mbit/s
95th percentile per-packet one-way delay: 121.542 ms
Loss rate: 1.08%
Run 5: Report of PCC-Expr — Data Link

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

- Flow 1 ingress (mean 271.21 Mbit/s)
- Flow 1 egress (mean 269.42 Mbit/s)

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

- Flow 1 (95th percentile 121.54 ms)
Run 1: Statistics of QUIC Cubic

End at: 2019-04-24 04:24:53
Local clock offset: 0.0 ms
Remote clock offset: -0.029 ms
Run 1: Report of QUIC Cubic — Data Link

![Graph of throughput and packet one-way delay]

Throughput (Mbps)

Time (s)

- Flow 1 ingress (mean 0.01 Mbps)
- Flow 1 egress (mean 0.01 Mbps)

Packet one-way delay (ms)

Time (s)

- Flow 1 (99th percentile 63.21 ms)
Run 2: Statistics of QUIC Cubic

Start at: 2019-04-24 04:54:57
Local clock offset: -0.072 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.98 Mbit/s
95th percentile per-packet one-way delay: 62.799 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 65.98 Mbit/s
95th percentile per-packet one-way delay: 62.799 ms
Loss rate: 0.63%
Run 2: Report of QUIC Cubic — Data Link
Run 3: Statistics of QUIC Cubic

Start at: 2019-04-24 05:25:40
End at: 2019-04-24 05:26:10
Local clock offset: -0.05 ms
Remote clock offset: -0.201 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.27 Mbit/s
95th percentile per-packet one-way delay: 63.252 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 63.27 Mbit/s
95th percentile per-packet one-way delay: 63.252 ms
Loss rate: 0.61%
Run 3: Report of QUIC Cubic — Data Link

[Graphs showing network performance metrics over time.]
Run 4: Statistics of QUIC Cubic

Start at: 2019-04-24 05:56:33
End at: 2019-04-24 05:57:03
Local clock offset: -0.05 ms
Remote clock offset: -0.57 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.28 Mbit/s
95th percentile per-packet one-way delay: 63.557 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 62.28 Mbit/s
95th percentile per-packet one-way delay: 63.557 ms
Loss rate: 0.73%
Run 4: Report of QUIC Cubic — Data Link

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

- **Flow 1 ingress (mean 62.46 Mbit/s)**
- **Flow 1 egress (mean 62.28 Mbit/s)**

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

- **Flow 1 (95th percentile 63.56 ms)**
Run 5: Statistics of QUIC Cubic

End at: 2019-04-24 06:27:53
Local clock offset: -0.053 ms
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.74 Mbit/s
95th percentile per-packet one-way delay: 63.082 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 50.74 Mbit/s
95th percentile per-packet one-way delay: 63.082 ms
Loss rate: 0.88%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

Start at: 2019-04-24 04:09:08
End at: 2019-04-24 04:09:38
Local clock offset: -0.003 ms
Remote clock offset: -0.274 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.847 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.847 ms
Loss rate: 0.38%
Run 1: Report of SCReAM — Data Link

![Graph of throughput over time](image1)

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

![Graph of round-trip delay over time](image2)

- Flow 1 (95th percentile 63.85 ms)
Run 2: Statistics of SCReAM

End at: 2019-04-24 04:40:02
Local clock offset: -0.027 ms
Remote clock offset: -0.325 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.299 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.299 ms
Loss rate: 0.38%
Run 2: Report of SCReAM — Data Link

![Graph showing network performance metrics](image)

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

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 63.30 ms)
Run 3: Statistics of SCReAM

Start at: 2019-04-24 05:10:02
End at: 2019-04-24 05:10:32
Local clock offset: -0.027 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.454 ms
  Loss rate: 0.51%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 63.454 ms
  Loss rate: 0.51%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2019-04-24 05:41:04
End at: 2019-04-24 05:41:34
Local clock offset: -0.032 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.308 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.308 ms
Loss rate: 0.38%
Run 4: Report of SCReAM — Data Link

![Graph showing network performance metrics over time.](image-url)
Run 5: Statistics of SCReAM

Start at: 2019-04-24 06:11:55
End at: 2019-04-24 06:12:25
Local clock offset: -0.03 ms
Remote clock offset: 0.082 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.946 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.946 ms
Loss rate: 0.51%
Run 5: Report of SCReAM — Data Link

![Graph showing data link performance metrics with time as the x-axis and throughput and packet delay as the y-axes, with two distinct data streams represented.]
Run 1: Statistics of Sprout

End at: 2019-04-24 04:26:01
Local clock offset: 0.001 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 0.49%
Run 1: Report of Sprout — Data Link

![Graph of throughput over time for Flow 1 ingress and egress with mean 6.79 Mbit/s.]

![Graph of per-packet one-way delay for Flow 1 with 95th percentile 63.81 ms.]

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Run 2: Statistics of Sprout

Start at: 2019-04-24 04:56:09
End at: 2019-04-24 04:56:39
Local clock offset: -0.055 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 63.662 ms
Loss rate: 0.48%

-- Flow 1:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 63.662 ms
Loss rate: 0.48%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-04-24 05:26:52
End at: 2019-04-24 05:27:22
Local clock offset: -0.046 ms
Remote clock offset: 0.069 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 63.541 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 63.541 ms
Loss rate: 0.48%
Run 3: Report of Sprout — Data Link

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

![Graph 2: Ping vs Time](image2.png)
Run 4: Statistics of Sprout

Start at: 2019-04-24 05:57:45
End at: 2019-04-24 05:58:15
Local clock offset: -0.051 ms
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 6.81 Mbit/s
  95th percentile per-packet one-way delay: 63.945 ms
  Loss rate: 0.46%
-- Flow 1:
  Average throughput: 6.81 Mbit/s
  95th percentile per-packet one-way delay: 63.945 ms
  Loss rate: 0.46%
Run 4: Report of Sprout — Data Link

![Throughput and Delay Graphs](image-url)
Run 5: Statistics of Sprout

Start at: 2019-04-24 06:28:33
End at: 2019-04-24 06:29:03
Local clock offset: -0.016 ms
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2019-04-24 08:17:19
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 6.82 Mbit/s
  95th percentile per-packet one-way delay: 63.921 ms
  Loss rate: 0.17%
-- Flow 1:
  Average throughput: 6.82 Mbit/s
  95th percentile per-packet one-way delay: 63.921 ms
  Loss rate: 0.17%
Run 5: Report of Sprout — Data Link

![Graph showing throughput and packet delay over time]

- **Flow 1 ingress (mean 6.80 Mbit/s)**
- **Flow 1 egress (mean 6.82 Mbit/s)**

![Graph showing packet delay distribution over time]

- **Flow 1 95th percentile 63.92 ms**
Run 1: Statistics of TaoVA-100x

End at: 2019-04-24 04:15:25
Local clock offset: -0.006 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-04-24 08:21:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 224.59 Mbit/s
95th percentile per-packet one-way delay: 63.528 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 224.59 Mbit/s
95th percentile per-packet one-way delay: 63.528 ms
Loss rate: 0.44%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2019-04-24 04:45:27
End at: 2019-04-24 04:45:57
Local clock offset: -0.08 ms
Remote clock offset: -0.296 ms

# Below is generated by plot.py at 2019-04-24 08:21:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 226.72 Mbit/s
95th percentile per-packet one-way delay: 63.501 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 226.72 Mbit/s
95th percentile per-packet one-way delay: 63.501 ms
Loss rate: 0.44%
Run 2: Report of TaoVA-100x — Data Link

Throughput (Mbps)

0 5 10 15 20 25 30

Time (s)

Flow 1 ingress (mean 226.76 Mbit/s)  Flow 1 egress (mean 226.72 Mbit/s)

Packet delay (ms)

0 5 10 15 20 25 30

Time (s)

Flow 1 (95th percentile 63.50 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2019-04-24 05:16:03
End at: 2019-04-24 05:16:33
Local clock offset: -0.054 ms
Remote clock offset: 0.131 ms

# Below is generated by plot.py at 2019-04-24 08:21:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.02 Mbit/s
95th percentile per-packet one-way delay: 62.950 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 233.02 Mbit/s
95th percentile per-packet one-way delay: 62.950 ms
Loss rate: 0.42%
Run 3: Report of TaoVA-100x — Data Link
Run 4: Statistics of TaoVA-100x

Start at: 2019-04-24 05:47:03
End at: 2019-04-24 05:47:33
Local clock offset: -0.031 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-04-24 08:21:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 234.18 Mbit/s
95th percentile per-packet one-way delay: 63.354 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 234.18 Mbit/s
95th percentile per-packet one-way delay: 63.354 ms
Loss rate: 0.40%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

Start at: 2019-04-24 06:17:51
End at: 2019-04-24 06:18:21
Local clock offset: -0.044 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-04-24 08:21:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 219.37 Mbit/s
95th percentile per-packet one-way delay: 63.702 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 219.37 Mbit/s
95th percentile per-packet one-way delay: 63.702 ms
Loss rate: 0.45%
Run 5: Report of TaoVA-100x — Data Link

![Graph showing throughput vs time for data link communications with two distinct flow types: ingress and egress, each with a mean of 219.43 Mb/s and 219.37 Mb/s respectively.](image-url)

![Graph showing per-packet end-to-end delay vs time with data points indicating flow 1's 95th percentile delay of 63.70 ms.](image-url)
Run 1: Statistics of TCP Vegas

Start at: 2019-04-24 04:04:56
End at: 2019-04-24 04:05:26
Local clock offset: -0.054 ms
Remote clock offset: 0.274 ms

# Below is generated by plot.py at 2019-04-24 08:21:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 309.84 Mbit/s
95th percentile per-packet one-way delay: 69.562 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 309.84 Mbit/s
95th percentile per-packet one-way delay: 69.562 ms
Loss rate: 0.30%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput and packet delay over time for TCP Vegas flow 1.]
Run 2: Statistics of TCP Vegas

Start at: 2019-04-24 04:35:22
End at: 2019-04-24 04:35:52
Local clock offset: -0.039 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-04-24 08:24:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 429.70 Mbit/s
95th percentile per-packet one-way delay: 64.705 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 429.70 Mbit/s
95th percentile per-packet one-way delay: 64.705 ms
Loss rate: 0.23%
Run 2: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 428.86 Mbit/s)
- Flow 1 egress (mean 429.70 Mbit/s)

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

- Flow 1 (95th percentile 64.70 ms)
Run 3: Statistics of TCP Vegas

Start at: 2019-04-24 05:06:03
End at: 2019-04-24 05:06:33
Local clock offset: -0.063 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2019-04-24 08:24:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.70 Mbit/s
95th percentile per-packet one-way delay: 63.304 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 9.70 Mbit/s
95th percentile per-packet one-way delay: 63.304 ms
Loss rate: 0.21%
Run 3: Report of TCP Vegas — Data Link
Run 4: Statistics of TCP Vegas

Start at: 2019-04-24 05:36:51  
End at: 2019-04-24 05:37:21  
Local clock offset: -0.054 ms  
Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2019-04-24 08:26:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 435.96 Mbit/s  
95th percentile per-packet one-way delay: 66.150 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 435.96 Mbit/s  
95th percentile per-packet one-way delay: 66.150 ms  
Loss rate: 0.43%
Run 4: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 435.99 Mbps)
- Flow 1 egress (mean 435.96 Mbps)

![Graph 2: End-to-end delay (ms)](image2)

- Flow 1 (95th percentile 66.15 ms)
Run 5: Statistics of TCP Vegas

Start at: 2019-04-24 06:07:36
End at: 2019-04-24 06:08:06
Local clock offset: ~0.04 ms
Remote clock offset: 0.626 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 437.24 Mbit/s
95th percentile per-packet one-way delay: 66.478 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 437.24 Mbit/s
95th percentile per-packet one-way delay: 66.478 ms
Loss rate: 0.43%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

End at: 2019-04-24 04:31:52
Local clock offset: -0.005 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 164.66 Mbit/s
95th percentile per-packet one-way delay: 158.825 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 164.66 Mbit/s
95th percentile per-packet one-way delay: 158.825 ms
Loss rate: 0.35%
Run 1: Report of Verus — Data Link

![Graph of Throughput and Delay]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 164.54 Mbps)
  - Flow 1 egress (mean 164.66 Mbps)

- **Delay (ms):**
  - Flow 1 (95th percentile 158.82 ms)
Run 2: Statistics of Verus

Start at: 2019-04-24 05:02:04
End at: 2019-04-24 05:02:34
Local clock offset: -0.081 ms
Remote clock offset: 0.083 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 146.63 Mbit/s
95th percentile per-packet one-way delay: 161.919 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 146.63 Mbit/s
95th percentile per-packet one-way delay: 161.919 ms
Loss rate: 0.85%
Run 2: Report of Verus — Data Link

![Graph of throughput and delay over time]

- Flow 1 ingress (mean 147.28 Mbit/s)
- Flow 1 egress (mean 146.63 Mbit/s)
Run 3: Statistics of Verus

Start at: 2019-04-24 05:32:49
End at: 2019-04-24 05:33:19
Local clock offset: -0.043 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 175.15 Mbit/s
  95th percentile per-packet one-way delay: 146.756 ms
  Loss rate: 0.16%
-- Flow 1:
  Average throughput: 175.15 Mbit/s
  95th percentile per-packet one-way delay: 146.756 ms
  Loss rate: 0.16%
Run 3: Report of Verus — Data Link

---

**Throughput (Mbps)**

- **Flow 1 ingress (mean 174.54 Mbps)**
- **Flow 1 egress (mean 175.15 Mbps)**

---

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

- **Flow 1 (95th percentile 146.76 ms)**

---
Run 4: Statistics of Verus

Start at: 2019-04-24 06:03:36
End at: 2019-04-24 06:04:06
Local clock offset: -0.035 ms
Remote clock offset: -0.622 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 158.92 Mbit/s
95th percentile per-packet one-way delay: 116.560 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 158.92 Mbit/s
95th percentile per-packet one-way delay: 116.560 ms
Loss rate: 0.36%
Run 4: Report of Verus — Data Link

![Graph of throughput and packet delay over time](image-url)
Run 5: Statistics of Verus

Start at: 2019-04-24 06:34:16
End at: 2019-04-24 06:34:46
Local clock offset: -0.027 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-04-24 08:27:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 157.73 Mbit/s
95th percentile per-packet one-way delay: 123.771 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 157.73 Mbit/s
95th percentile per-packet one-way delay: 123.771 ms
Loss rate: 0.15%
Run 5: Report of Verus — Data Link

![Throughput](image)

![Packet Delay](image)

Flow 1 ingress (mean 157.90 Mbit/s) — Flow 1 egress (mean 157.73 Mbit/s)

Flow 1 (95th percentile 123.77 ms)
Run 1: Statistics of PCC-Vivace

End at: 2019-04-24 04:20:18
Local clock offset: -0.02 ms
Remote clock offset: -0.177 ms

# Below is generated by plot.py at 2019-04-24 08:28:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 229.12 Mbit/s
95th percentile per-packet one-way delay: 64.315 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 229.12 Mbit/s
95th percentile per-packet one-way delay: 64.315 ms
Loss rate: 0.72%
Run 1: Report of PCC-Vivace — Data Link

![Graph of throughput and packet delay over time for Flow 1.]
Run 2: Statistics of PCC-Vivace

Start at: 2019-04-24 04:50:17
End at: 2019-04-24 04:50:47
Local clock offset: -0.058 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-04-24 08:29:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 268.68 Mbit/s
95th percentile per-packet one-way delay: 64.839 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 268.68 Mbit/s
95th percentile per-packet one-way delay: 64.839 ms
Loss rate: 0.53%
Run 2: Report of PCC-Vivace — Data Link

![Graph 1](Image 1)

Flow 1 ingress (mean 268.96 Mbit/s)  Flow 1 egress (mean 268.68 Mbit/s)

![Graph 2](Image 2)

Flow 1 (95th percentile 64.84 ms)
Run 3: Statistics of PCC-Vivace

Start at: 2019-04-24 05:20:57
End at: 2019-04-24 05:21:27
Local clock offset: -0.025 ms
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2019-04-24 08:30:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 358.27 Mbit/s
95th percentile per-packet one-way delay: 154.353 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 358.27 Mbit/s
95th percentile per-packet one-way delay: 154.353 ms
Loss rate: 0.38%
Run 3: Report of PCC-Vivace — Data Link

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

- Flow 1 ingress (mean 358.11 Mbps)
- Flow 1 egress (mean 358.27 Mbps)

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

- Flow 1 (95th percentile 154.35 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2019-04-24 05:51:55
End at: 2019-04-24 05:52:26
Local clock offset: -0.02 ms
Remote clock offset: 0.563 ms

# Below is generated by plot.py at 2019-04-24 08:30:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 279.89 Mbit/s
95th percentile per-packet one-way delay: 63.231 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 279.89 Mbit/s
95th percentile per-packet one-way delay: 63.231 ms
Loss rate: 0.56%
Run 4: Report of PCC-Vivace — Data Link

[Diagrams showing throughput and packet one-way delay over time]
Run 5: Statistics of PCC-Vivace

Start at: 2019-04-24 06:22:40
End at: 2019-04-24 06:23:10
Local clock offset: -0.027 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-04-24 08:30:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 330.36 Mbit/s
95th percentile per-packet one-way delay: 67.569 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 330.36 Mbit/s
95th percentile per-packet one-way delay: 67.569 ms
Loss rate: 0.47%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

Start at: 2019-04-24 04:32:46
End at: 2019-04-24 04:33:16
Local clock offset: -0.002 ms
Remote clock offset: 0.208 ms

# Below is generated by plot.py at 2019-04-24 08:30:07
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 2.18 Mbit/s
  95th percentile per-packet one-way delay: 63.035 ms
  Loss rate: 0.47%
-- Flow 1:
  Average throughput: 2.18 Mbit/s
  95th percentile per-packet one-way delay: 63.035 ms
  Loss rate: 0.47%
Run 1: Report of WebRTC media — Data Link

![Graph showing throughput over time for two data flows, with labels indicating mean speeds of 2.18 Mbit/s each.](Image)

![Graph showing packet end-to-end delay over time for Flow 1, with a 95th percentile delay of 63.03 ms.](Image)
Run 2: Statistics of WebRTC media

Start at: 2019-04-24 05:03:26
End at: 2019-04-24 05:03:56
Local clock offset: -0.076 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-04-24 08:30:07
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.316 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.316 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-04-24 05:34:15
End at: 2019-04-24 05:34:45
Local clock offset: -0.043 ms
Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2019-04-24 08:30:07
# Datalink statistics
-- Total of 1 flow:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.054 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 63.054 ms
  Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-04-24 06:05:00
End at: 2019-04-24 06:05:30
Local clock offset: -0.042 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-04-24 08:30:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 63.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 63.342 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2019-04-24 06:35:39
End at: 2019-04-24 06:36:09
Local clock offset: -0.029 ms
Remote clock offset: -0.252 ms

# Below is generated by plot.py at 2019-04-24 08:30:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.325 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.325 ms
Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbps)]

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