Pantheon Report

Generated at 2018-01-17 06:12:57 (UTC).

Data path: Brazil Ethernet (*remote*) →AWS Brazil 1 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.

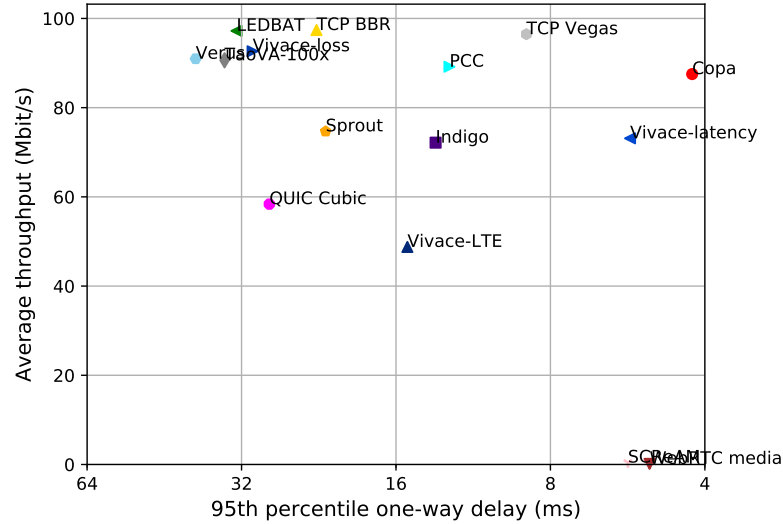Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

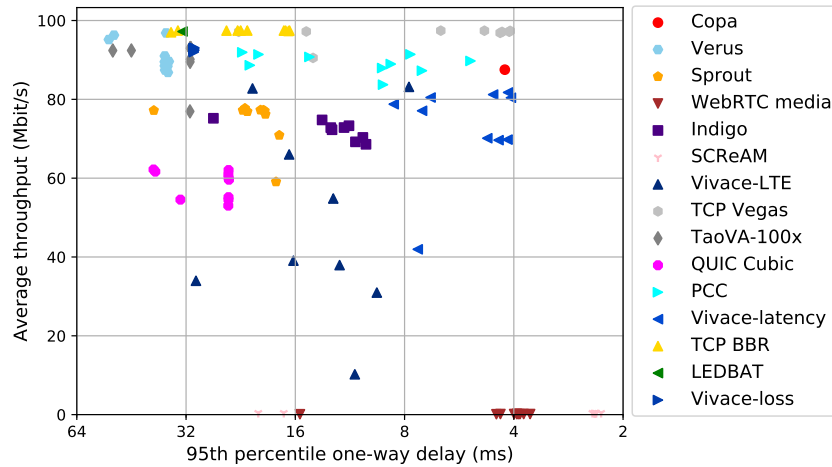NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: master @ 386976fcf771de1359acd909bfbb98a156d79009
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 423cbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Brazil Ethernet to AWS Brazil 1 Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Brazil Ethernet to AWS Brazil 1 Ethernet, 10 runs of 30s each per scheme
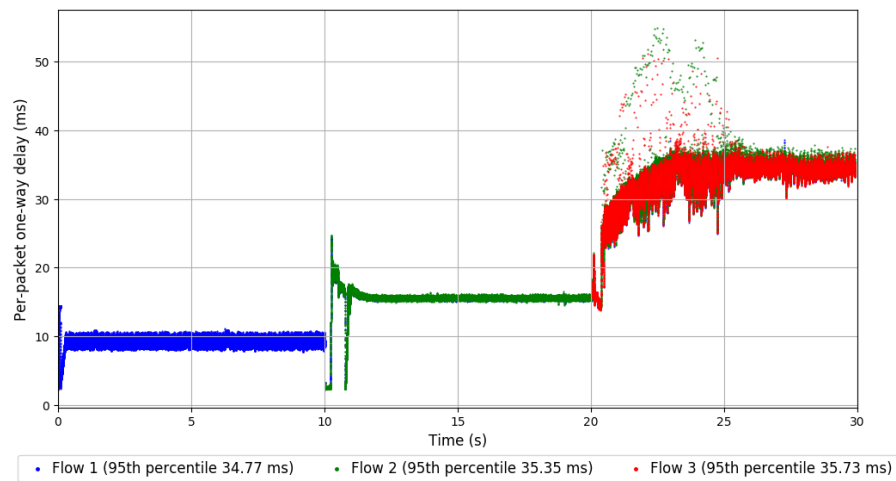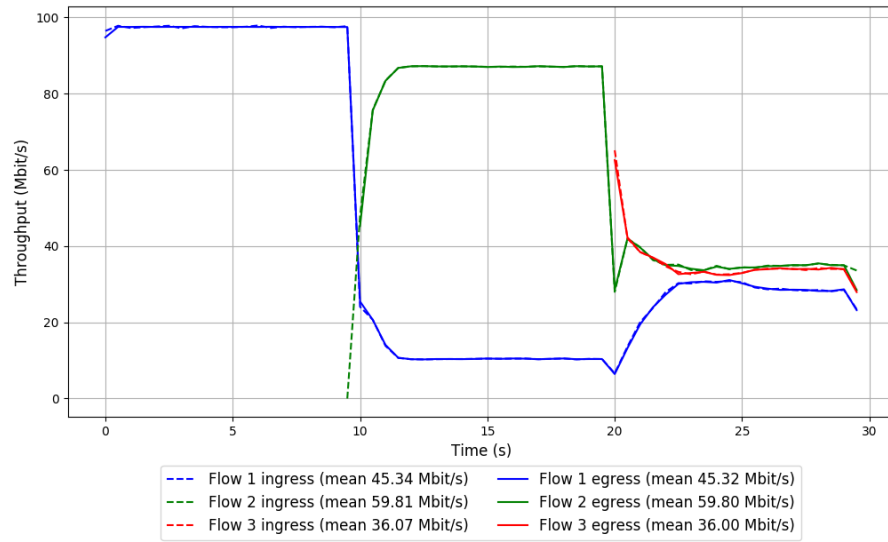3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	58.10	43.21	31.86	22.49	22.85	24.43	0.07	0.08	0.20
TCP Cubic	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEDBAT	1	72.16	29.52	18.98	30.09	33.81	35.78	0.06	0.24	0.78
PCC	10	71.69	19.75	13.10	11.97	13.65	14.68	0.01	0.04	0.06
QUIC Cubic	10	1.05	65.71	44.68	6.64	28.18	28.36	0.00	0.10	0.27
SCReAM	10	0.22	0.22	0.22	5.65	5.64	5.66	0.00	0.04	0.04
WebRTC media	10	0.03	0.08	0.16	4.41	5.16	5.23	0.00	0.00	0.02
Sprout	10	40.35	36.93	29.11	20.70	22.09	23.68	0.04	0.06	0.20
TaoVA-100x	10	55.66	40.33	31.96	34.15	34.46	34.64	0.06	0.15	0.38
TCP Vegas	9	49.00	47.17	48.44	10.15	7.77	8.88	0.01	0.02	0.05
Verus	10	54.01	39.56	32.37	38.10	39.42	39.76	0.07	0.16	0.37
Copa	1	74.00	9.42	47.62	4.05	2.88	4.70	0.02	0.00	0.09
FillP	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indigo	9	27.61	47.01	40.84	12.66	13.10	15.20	0.02	0.04	0.12
Vivace-latency	10	46.88	27.98	23.03	4.32	6.06	9.09	0.01	0.02	0.06
Vivace-loss	9	57.63	38.22	28.78	29.89	30.49	30.62	0.67	0.61	4.12
Vivace-LTE	9	55.21	20.02	6.63	12.81	19.68	13.46	0.00	0.00	10.69

3

```
Run 1: Statistics of TCP BBR

Start at: 2018-01-16 23:01:52
End at: 2018-01-16 23:02:22
Local clock offset: -0.023 ms
Remote clock offset: -0.536 ms


# Below is generated by plot.py at 2018-01-17 05:50:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 35.198 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 45.32 Mbit/s
95th percentile per-packet one-way delay: 34.771 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 59.80 Mbit/s
95th percentile per-packet one-way delay: 35.355 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 36.00 Mbit/s
95th percentile per-packet one-way delay: 35.725 ms
Loss rate: 0.38%
```

Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-01-16 23:22:25
End at: 2018-01-16 23:22:55
Local clock offset: -0.04 ms
Remote clock offset: -16.774 ms


# Below is generated by plot.py at 2018-01-17 05:50:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 33.699 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 64.58 Mbit/s
95th percentile per-packet one-way delay: 33.695 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 42.68 Mbit/s
95th percentile per-packet one-way delay: 33.353 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 13.54 Mbit/s
95th percentile per-packet one-way delay: 35.581 ms
Loss rate: 0.13%
```
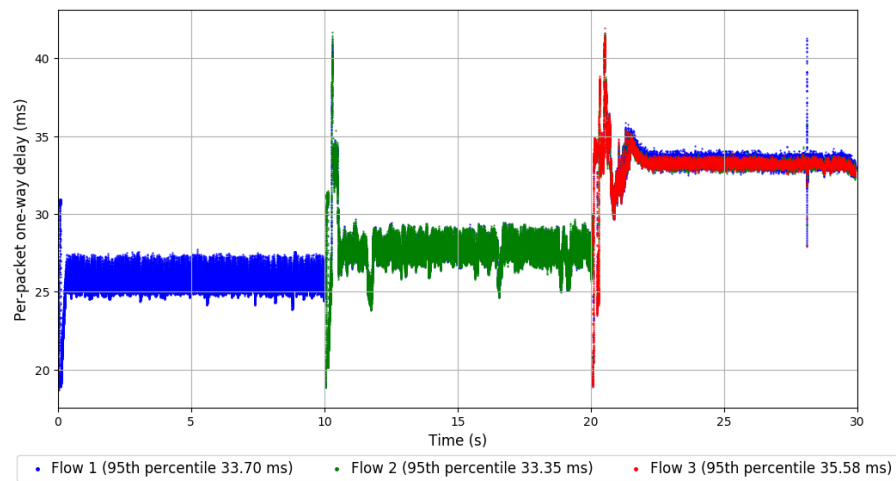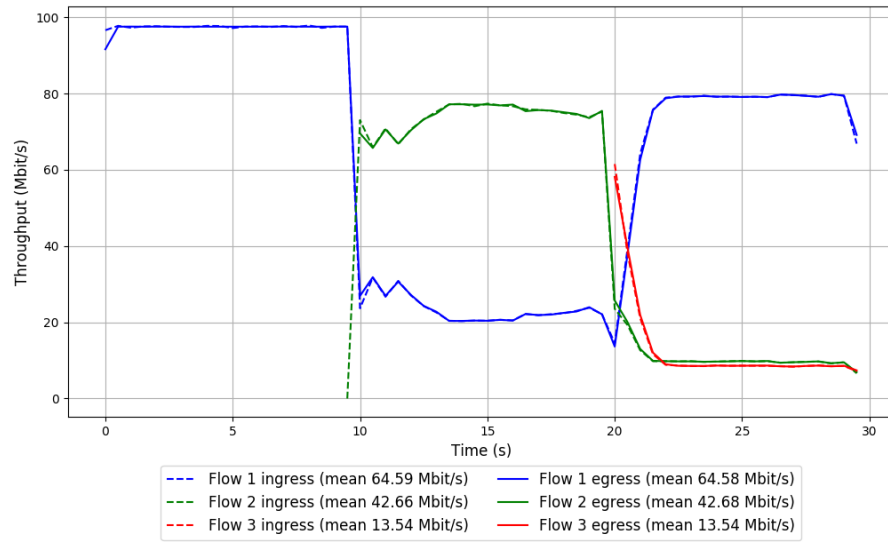
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-01-16 23:42:59
End at: 2018-01-16 23:43:29
Local clock offset: 0.083 ms
Remote clock offset: 0.102 ms


# Below is generated by plot.py at 2018-01-17 05:50:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 23.073 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 22.210 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 41.13 Mbit/s
95th percentile per-packet one-way delay: 23.308 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 28.178 ms
Loss rate: 0.20%
```
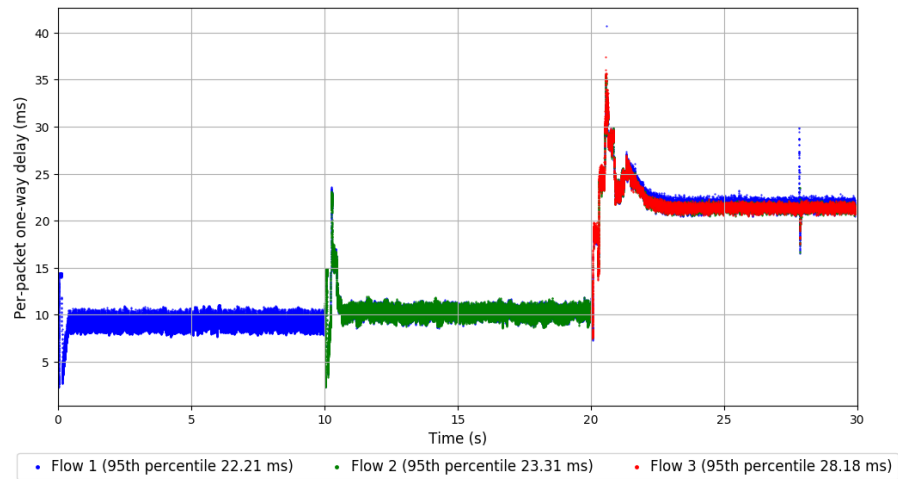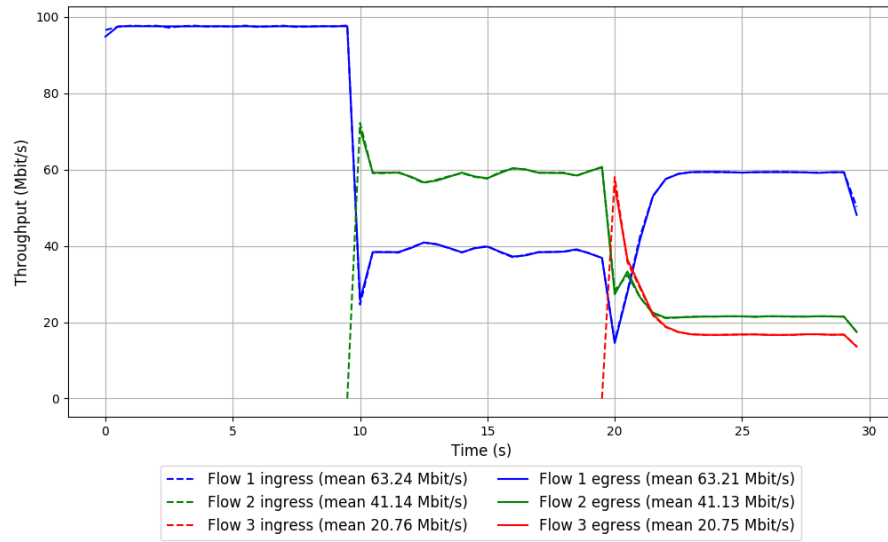
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-01-17 00:03:28
End at: 2018-01-17 00:03:58
Local clock offset: 0.14 ms
Remote clock offset: 0.352 ms


# Below is generated by plot.py at 2018-01-17 05:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 22.636 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 58.85 Mbit/s
95th percentile per-packet one-way delay: 22.130 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 30.36 Mbit/s
95th percentile per-packet one-way delay: 22.447 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 55.62 Mbit/s
95th percentile per-packet one-way delay: 23.474 ms
Loss rate: 0.28%
```
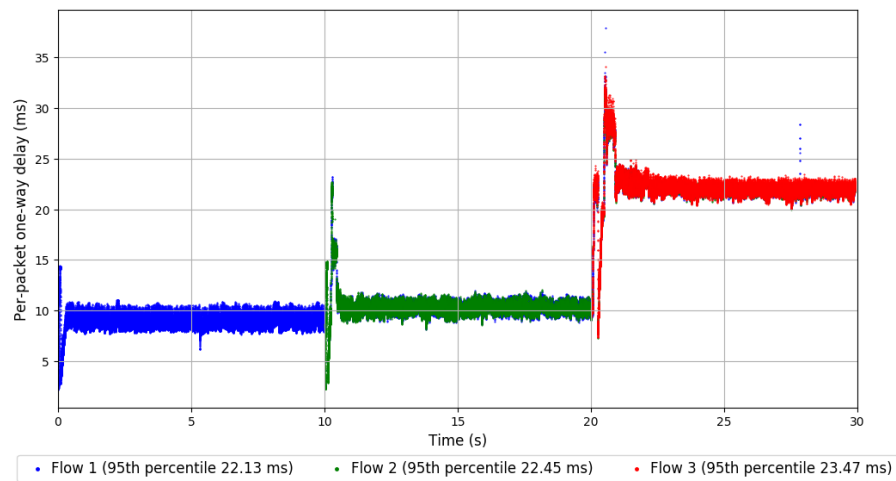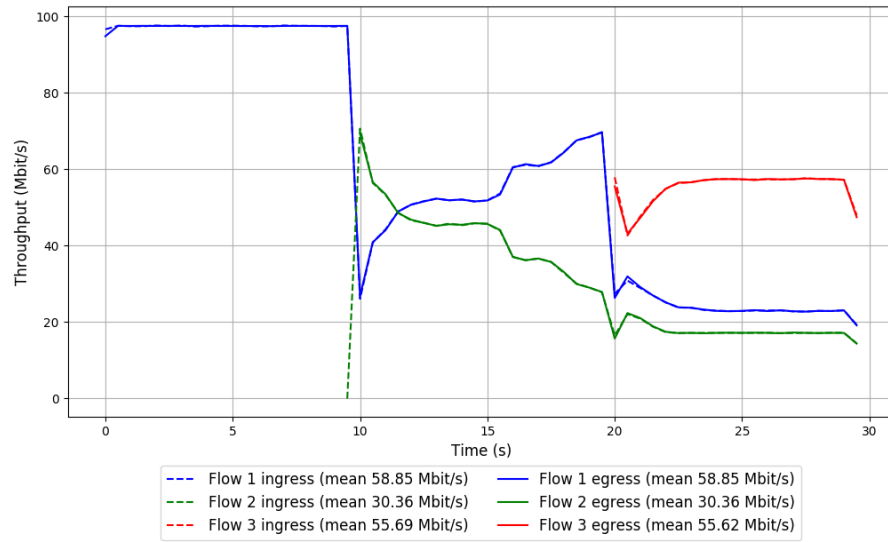
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-01-17 00:24:01
End at: 2018-01-17 00:24:31
Local clock offset: 0.126 ms
Remote clock offset: 0.386 ms


# Below is generated by plot.py at 2018-01-17 05:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 21.700 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 45.72 Mbit/s
95th percentile per-packet one-way delay: 21.095 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 49.11 Mbit/s
95th percentile per-packet one-way delay: 21.559 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 57.57 Mbit/s
95th percentile per-packet one-way delay: 22.818 ms
Loss rate: 0.25%
```
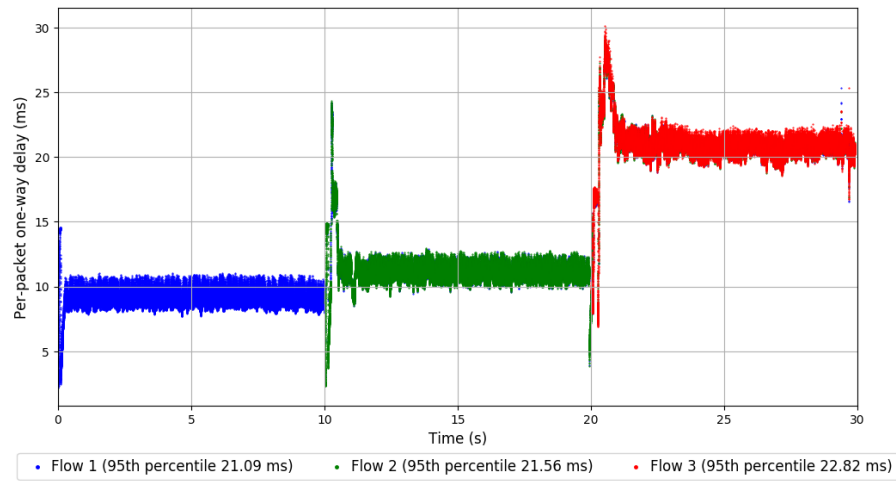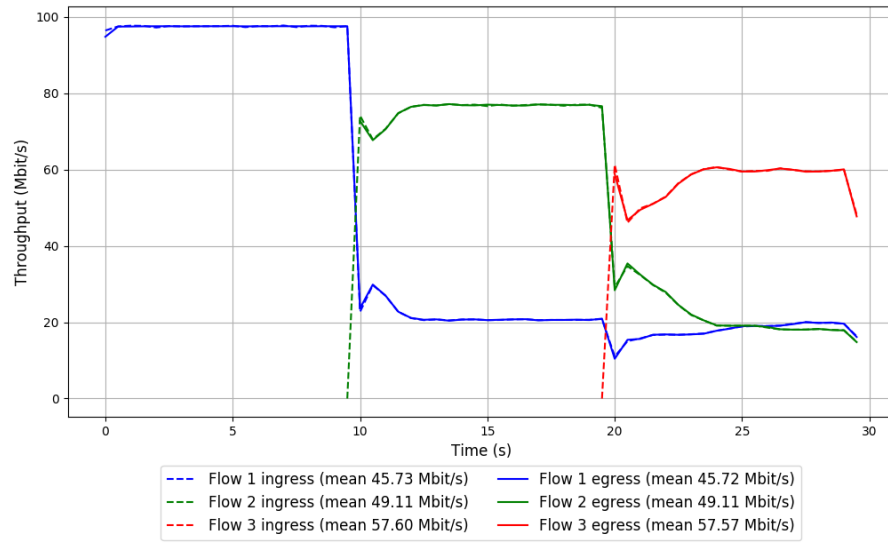
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 45.73 Mbit/s) --- Flow 1 egress (mean 45.72 Mbit/s)
Flow 2 ingress (mean 49.11 Mbit/s) --- Flow 2 egress (mean 49.11 Mbit/s)
Flow 3 ingress (mean 57.60 Mbit/s) --- Flow 3 egress (mean 57.57 Mbit/s)

Flow 1 (95th percentile 21.09 ms)   Flow 2 (95th percentile 21.56 ms)   Flow 3 (95th percentile 22.82 ms)

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```
Run 6: Statistics of TCP BBR

Start at: 2018-01-17 00:44:34
End at: 2018-01-17 00:45:04
Local clock offset: 0.244 ms
Remote clock offset: 0.334 ms


# Below is generated by plot.py at 2018-01-17 05:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.45 Mbit/s
95th percentile per-packet one-way delay: 16.599 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 64.60 Mbit/s
95th percentile per-packet one-way delay: 16.687 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 42.71 Mbit/s
95th percentile per-packet one-way delay: 16.166 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 13.38 Mbit/s
95th percentile per-packet one-way delay: 16.793 ms
Loss rate: 0.13%
```
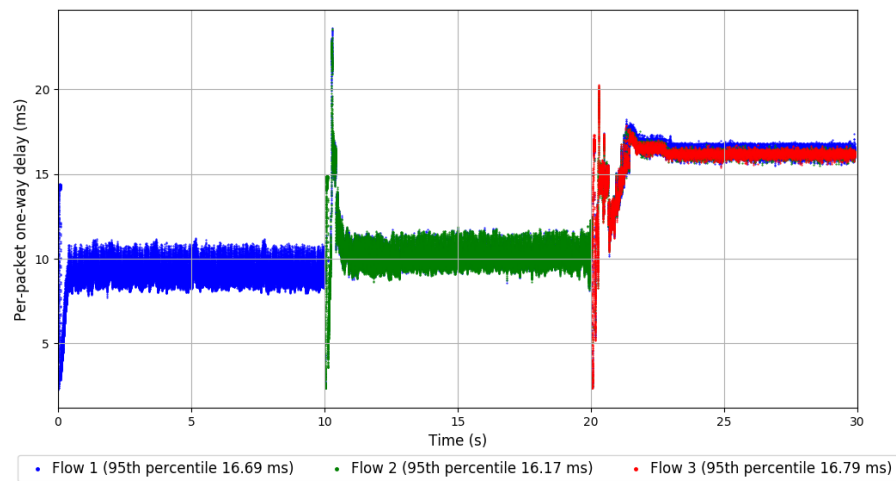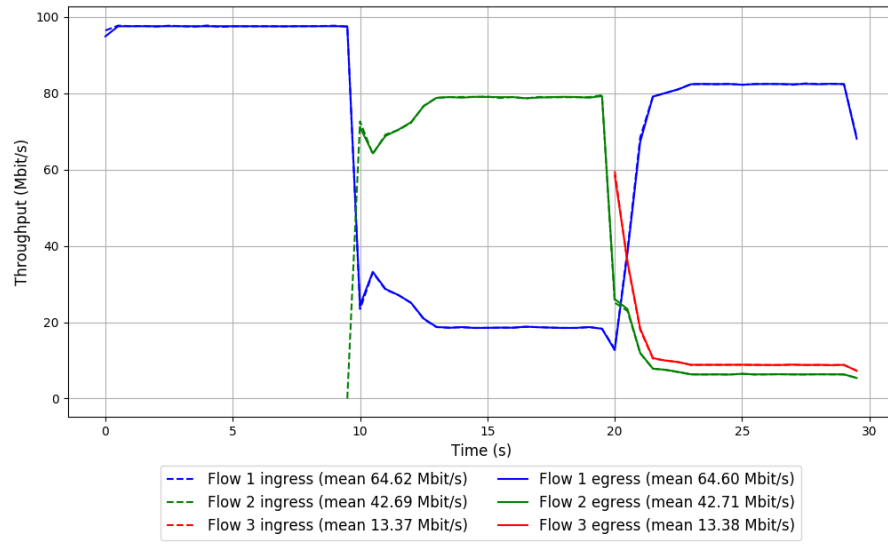
Run 6: Report of TCP BBR — Data Link

```
Run 7: Statistics of TCP BBR

Start at: 2018-01-17 01:05:04
End at: 2018-01-17 01:05:34
Local clock offset: 0.334 ms
Remote clock offset: 0.17 ms


# Below is generated by plot.py at 2018-01-17 05:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 17.016 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 62.65 Mbit/s
95th percentile per-packet one-way delay: 17.044 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 43.98 Mbit/s
95th percentile per-packet one-way delay: 16.570 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 16.67 Mbit/s
95th percentile per-packet one-way delay: 17.182 ms
Loss rate: 0.13%
```
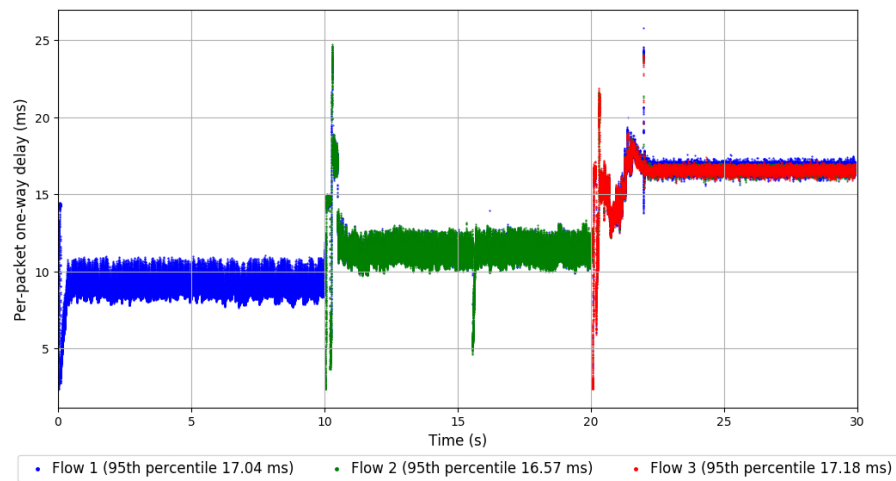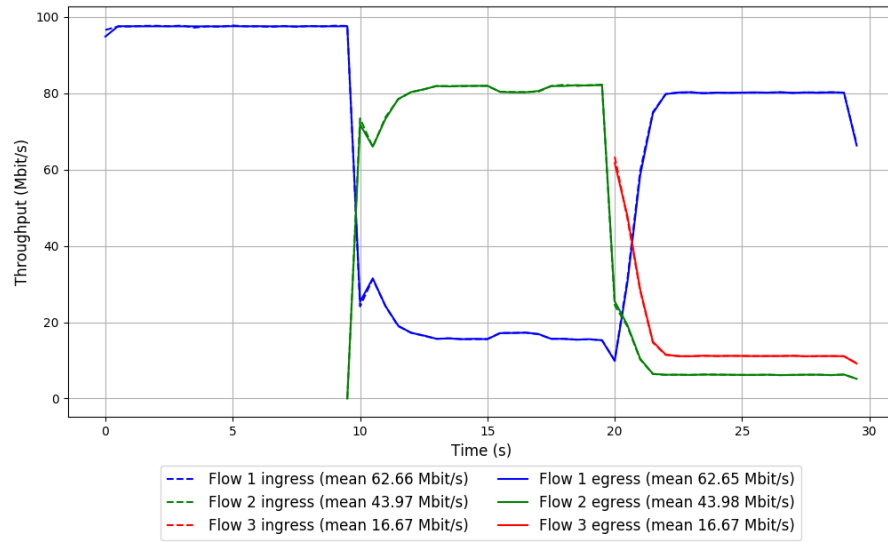
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 62.66 Mbit/s)   Flow 1 egress (mean 62.65 Mbit/s)
Flow 2 ingress (mean 43.97 Mbit/s)   Flow 2 egress (mean 43.98 Mbit/s)
Flow 3 ingress (mean 16.67 Mbit/s)   Flow 3 egress (mean 16.67 Mbit/s)

Flow 1 (95th percentile 17.04 ms)   Flow 2 (95th percentile 16.57 ms)   Flow 3 (95th percentile 17.18 ms)

```
Run 8: Statistics of TCP BBR

Start at: 2018-01-17 01:25:40
End at: 2018-01-17 01:26:10
Local clock offset: 0.303 ms
Remote clock offset: 0.148 ms


# Below is generated by plot.py at 2018-01-17 05:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 16.706 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 62.92 Mbit/s
95th percentile per-packet one-way delay: 15.631 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 17.924 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 77.29 Mbit/s
95th percentile per-packet one-way delay: 17.794 ms
Loss rate: 0.20%
```
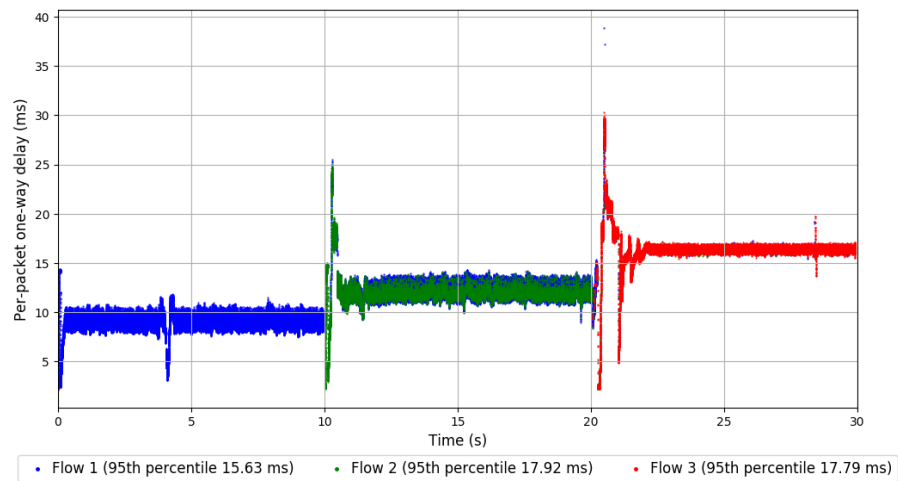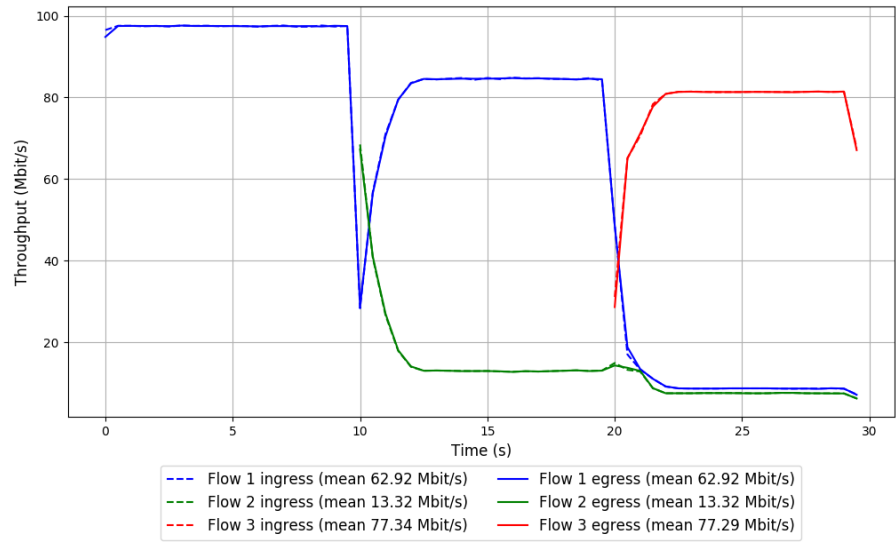
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 62.92 Mbit/s)   Flow 1 egress (mean 62.92 Mbit/s)
Flow 2 ingress (mean 13.32 Mbit/s)   Flow 2 egress (mean 13.32 Mbit/s)
Flow 3 ingress (mean 77.34 Mbit/s)   Flow 3 egress (mean 77.29 Mbit/s)

Flow 1 (95th percentile 15.63 ms)   Flow 2 (95th percentile 17.92 ms)   Flow 3 (95th percentile 17.79 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2018-01-17 01:46:12
End at: 2018-01-17 01:46:42
Local clock offset: 0.414 ms
Remote clock offset: 0.08 ms


# Below is generated by plot.py at 2018-01-17 05:52:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 24.757 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 49.17 Mbit/s
95th percentile per-packet one-way delay: 24.443 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 66.36 Mbit/s
95th percentile per-packet one-way delay: 24.938 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 12.34 Mbit/s
95th percentile per-packet one-way delay: 29.262 ms
Loss rate: 0.15%
```
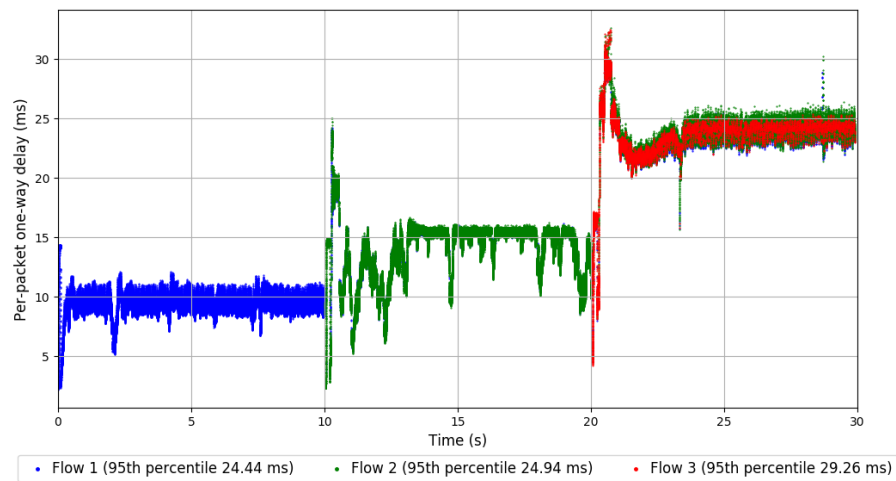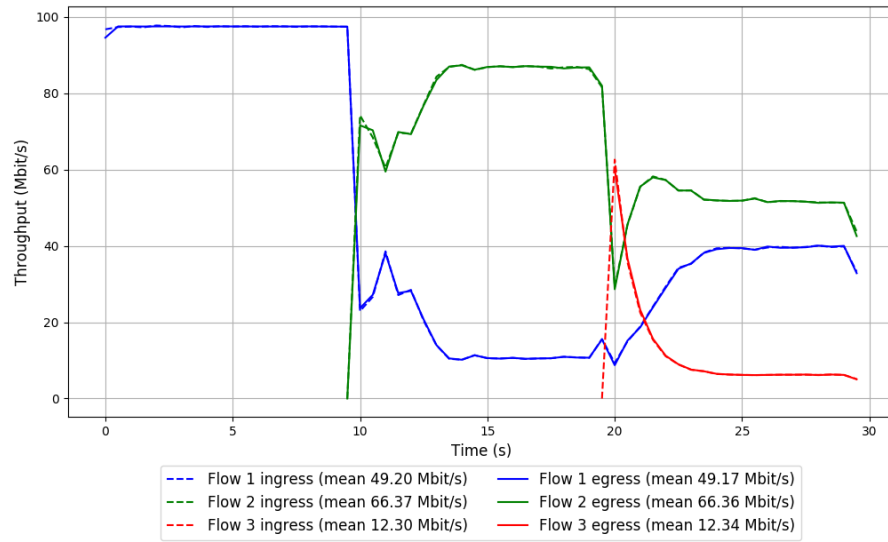
Run 9: Report of TCP BBR — Data Link

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```
Run 10: Statistics of TCP BBR

Start at: 2018-01-17 02:06:46
End at: 2018-01-17 02:07:16
Local clock offset: 0.372 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2018-01-17 05:52:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 17.203 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 17.223 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 16.914 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 15.42 Mbit/s
95th percentile per-packet one-way delay: 17.490 ms
Loss rate: 0.13%
```
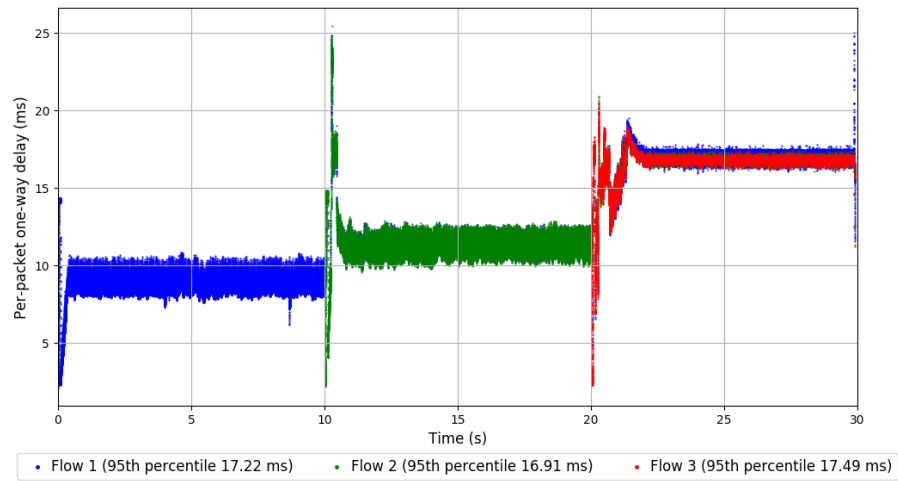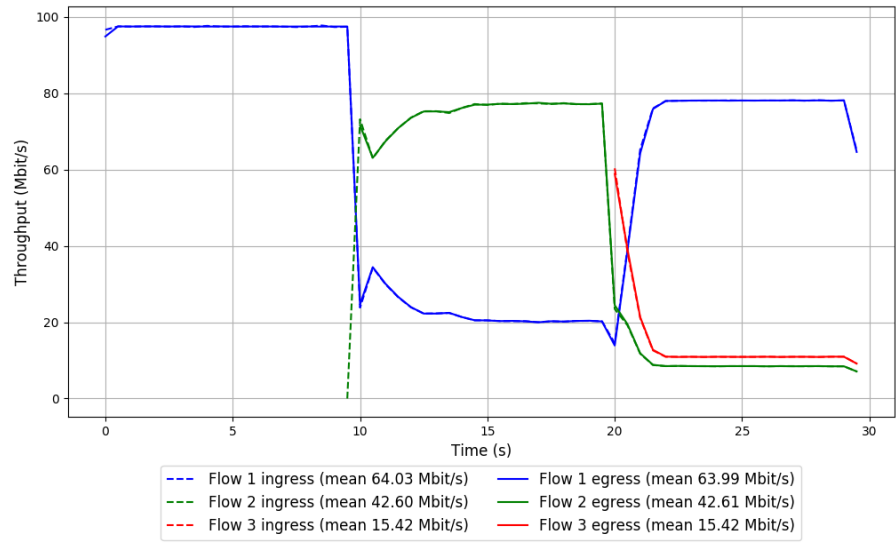
Run 10: Report of TCP BBR — Data Link

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```
Run 1: Statistics of TCP Cubic

Start at: 2018-01-16 23:07:29
End at: 2018-01-16 23:07:59
Local clock offset: 0.004 ms
Remote clock offset: -0.481 ms
```

Run 1: Report of TCP Cubic — Data Link

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```
Run 2: Statistics of TCP Cubic

Start at: 2018-01-16 23:28:03
End at: 2018-01-16 23:28:33
Local clock offset: -0.004 ms
Remote clock offset: -0.11 ms
```

Run 2: Report of TCP Cubic — Data Link

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```
Run 3: Statistics of TCP Cubic

Start at: 2018-01-16 23:48:38
End at: 2018-01-16 23:49:08
Local clock offset: 0.077 ms
Remote clock offset: -19.843 ms
```

Run 3: Report of TCP Cubic — Data Link

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```
Run 4: Statistics of TCP Cubic

Start at: 2018-01-17 00:09:07
End at: 2018-01-17 00:09:37
Local clock offset: 0.148 ms
Remote clock offset: 0.338 ms
```

Run 4: Report of TCP Cubic — Data Link

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```
Run 5: Statistics of TCP Cubic

Start at: 2018-01-17 00:29:39
End at: 2018-01-17 00:30:09
Local clock offset: 0.19 ms
Remote clock offset: 0.393 ms
```

Run 5: Report of TCP Cubic — Data Link

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Figure is missing

Run 6: Statistics of TCP Cubic

Start at: 2018-01-17 00:50:13
End at: 2018-01-17 00:50:43
Local clock offset: 0.277 ms
Remote clock offset: 0.297 ms

Run 6: Report of TCP Cubic — Data Link

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```
Run 7: Statistics of TCP Cubic

Start at: 2018-01-17 01:10:42
End at: 2018-01-17 01:11:12
Local clock offset: 0.271 ms
Remote clock offset: 0.143 ms
```

Run 7: Report of TCP Cubic — Data Link

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```
Run 8: Statistics of TCP Cubic

Start at: 2018-01-17 01:31:18
End at: 2018-01-17 01:31:48
Local clock offset: 0.324 ms
Remote clock offset: 0.115 ms
```

Run 8: Report of TCP Cubic — Data Link

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```
Run 9: Statistics of TCP Cubic

Start at: 2018-01-17 01:51:50
End at: 2018-01-17 01:52:20
Local clock offset: 0.345 ms
Remote clock offset: 0.047 ms
```

Run 9: Report of TCP Cubic — Data Link

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Run 10: Statistics of TCP Cubic

Start at: 2018-01-17 02:12:23
End at: 2018-01-17 02:12:53
Local clock offset: 0.358 ms
Remote clock offset: -0.016 ms

Run 10: Report of TCP Cubic — Data Link

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Run 1: Statistics of LEDBAT

Start at: 2018-01-16 22:53:53
End at: 2018-01-16 22:54:23
Local clock offset: -0.032 ms
Remote clock offset: -14.681 ms

Run 1: Report of LEDBAT — Data Link

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```
Run 2: Statistics of LEDBAT

Start at: 2018-01-16 23:14:19
End at: 2018-01-16 23:14:49
Local clock offset: -0.074 ms
Remote clock offset: -0.29 ms
```

Run 2: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 3: Statistics of LEDBAT

Start at: 2018-01-16 23:34:55
End at: 2018-01-16 23:35:25
Local clock offset: 0.063 ms
Remote clock offset: -0.07 ms
```

Run 3: Report of LEDBAT — Data Link

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Figure is missing

```
Run 4: Statistics of LEDBAT

Start at: 2018-01-16 23:55:31
End at: 2018-01-16 23:56:01
Local clock offset: 0.085 ms
Remote clock offset: 0.249 ms
```

Run 4: Report of LEDBAT — Data Link

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Figure is missing

```
Run 5: Statistics of LEDBAT

Start at: 2018-01-17 00:16:00
End at: 2018-01-17 00:16:30
Local clock offset: 0.177 ms
Remote clock offset: 0.377 ms

# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.737 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 72.16 Mbit/s
95th percentile per-packet one-way delay: 30.088 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 29.52 Mbit/s
95th percentile per-packet one-way delay: 33.814 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 18.98 Mbit/s
95th percentile per-packet one-way delay: 35.779 ms
Loss rate: 0.78%
```
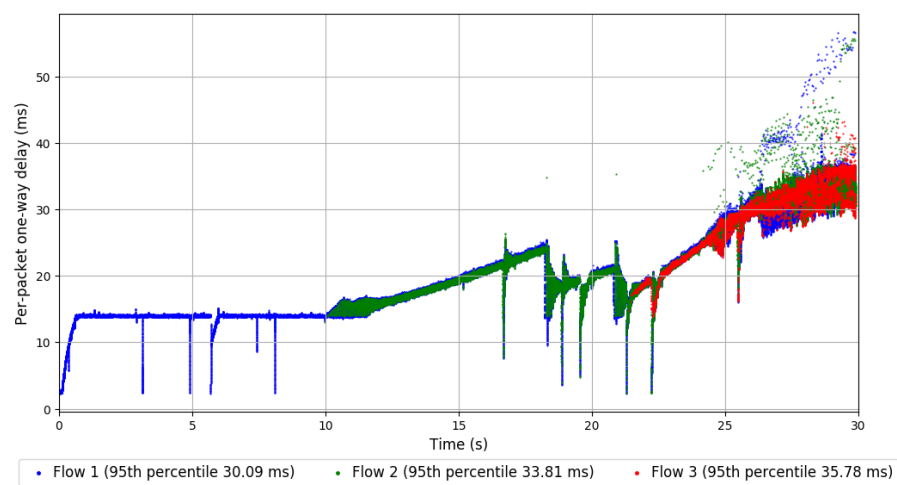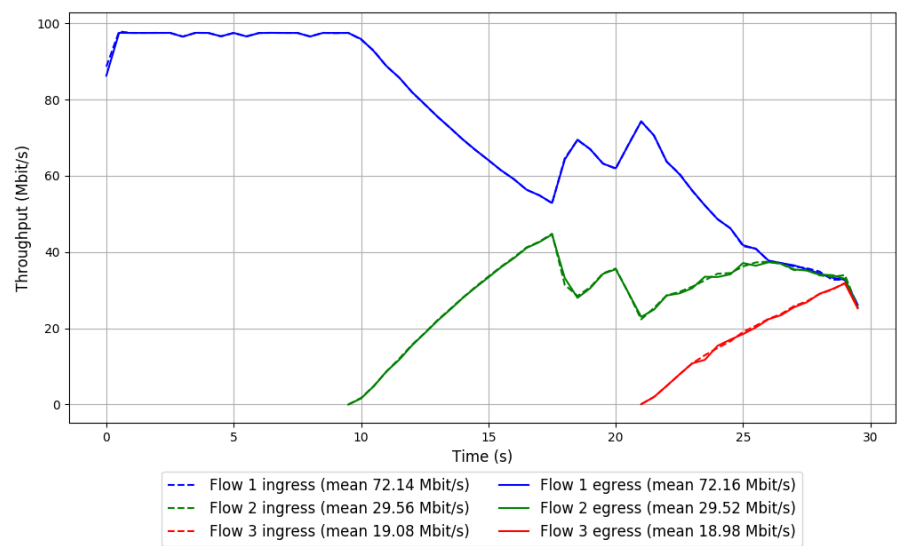
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 72.14 Mbit/s)   Flow 1 egress (mean 72.16 Mbit/s)
Flow 2 ingress (mean 29.56 Mbit/s)   Flow 2 egress (mean 29.52 Mbit/s)
Flow 3 ingress (mean 19.08 Mbit/s)   Flow 3 egress (mean 18.98 Mbit/s)

Flow 1 (95th percentile 30.09 ms)   Flow 2 (95th percentile 33.81 ms)   Flow 3 (95th percentile 35.78 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2018-01-17 00:36:33
End at: 2018-01-17 00:37:03
Local clock offset: 0.223 ms
Remote clock offset: 0.41 ms
```

Run 6: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 7: Statistics of LEDBAT

Start at: 2018-01-17 00:57:06
End at: 2018-01-17 00:57:36
Local clock offset: 0.303 ms
Remote clock offset: 0.245 ms
```
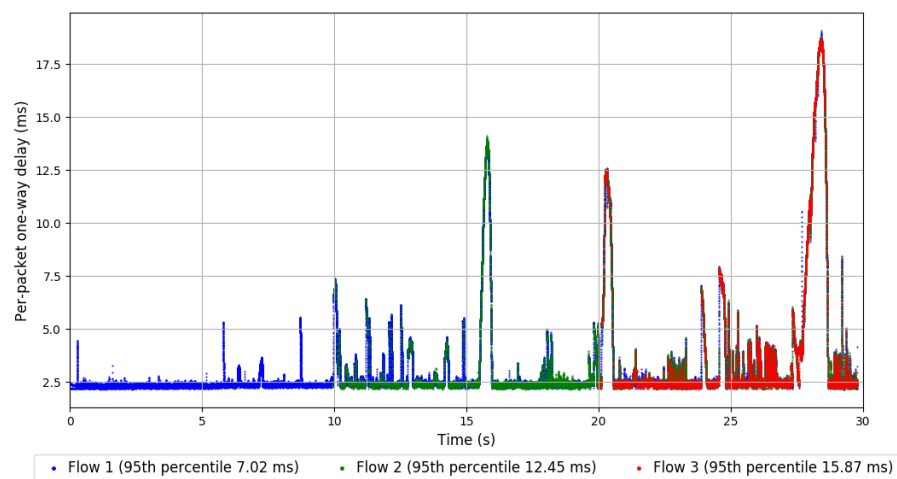
Run 7: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 8: Statistics of LEDBAT

Start at: 2018-01-17 01:17:37
End at: 2018-01-17 01:18:07
Local clock offset: 0.286 ms
Remote clock offset: 0.141 ms
```
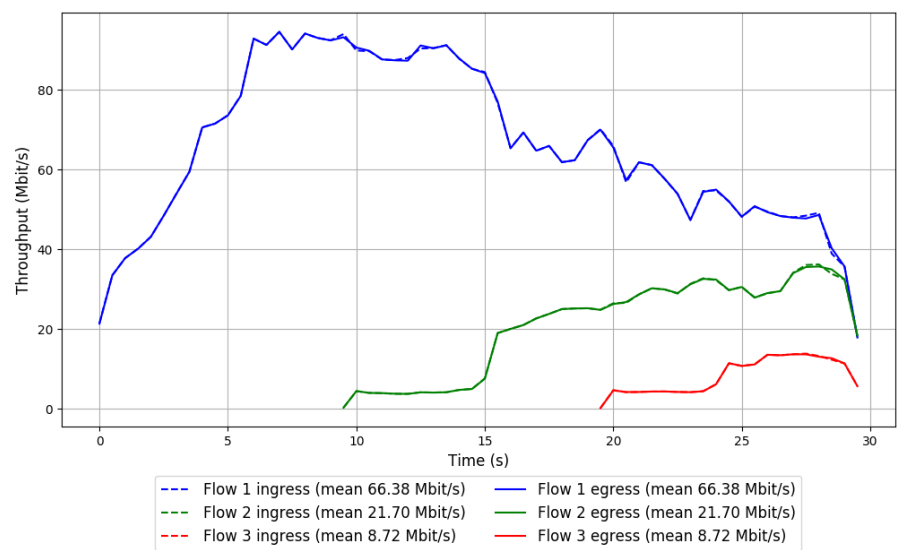
Run 8: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 9: Statistics of LEDBAT

Start at: 2018-01-17 01:38:12
End at: 2018-01-17 01:38:42
Local clock offset: 0.42 ms
Remote clock offset: -2.309 ms
```

Run 9: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 10: Statistics of LEDBAT

Start at: 2018-01-17 01:58:45
End at: 2018-01-17 01:59:15
Local clock offset: 0.364 ms
Remote clock offset: -0.013 ms
```

Run 10: Report of LEDBAT — Data Link

Figure is missing

Figure is missing

```
Run 1: Statistics of PCC

Start at: 2018-01-16 23:00:44
End at: 2018-01-16 23:01:14
Local clock offset: -0.095 ms
Remote clock offset: -0.524 ms


# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.72 Mbit/s
95th percentile per-packet one-way delay: 9.171 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 66.38 Mbit/s
95th percentile per-packet one-way delay: 7.018 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 21.70 Mbit/s
95th percentile per-packet one-way delay: 12.448 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 15.869 ms
Loss rate: 0.04%
```
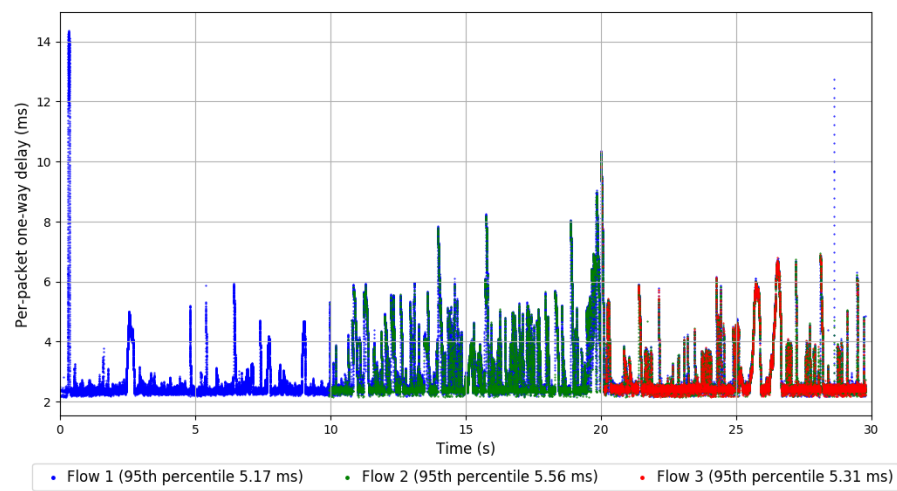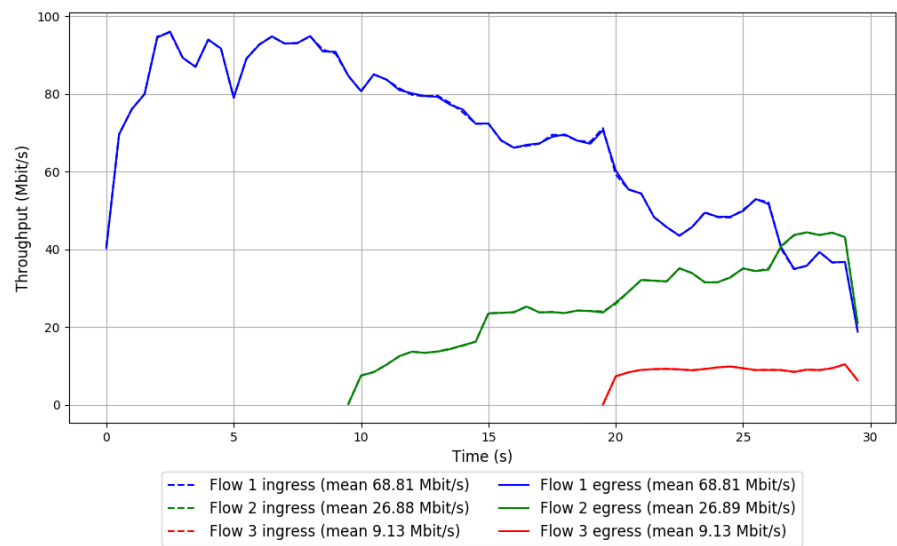
Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2018-01-16 23:21:18
End at: 2018-01-16 23:21:48
Local clock offset: 0.021 ms
Remote clock offset: -0.199 ms


# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.74 Mbit/s
95th percentile per-packet one-way delay: 5.265 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 68.81 Mbit/s
95th percentile per-packet one-way delay: 5.173 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 26.89 Mbit/s
95th percentile per-packet one-way delay: 5.563 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 5.311 ms
Loss rate: 0.07%
```
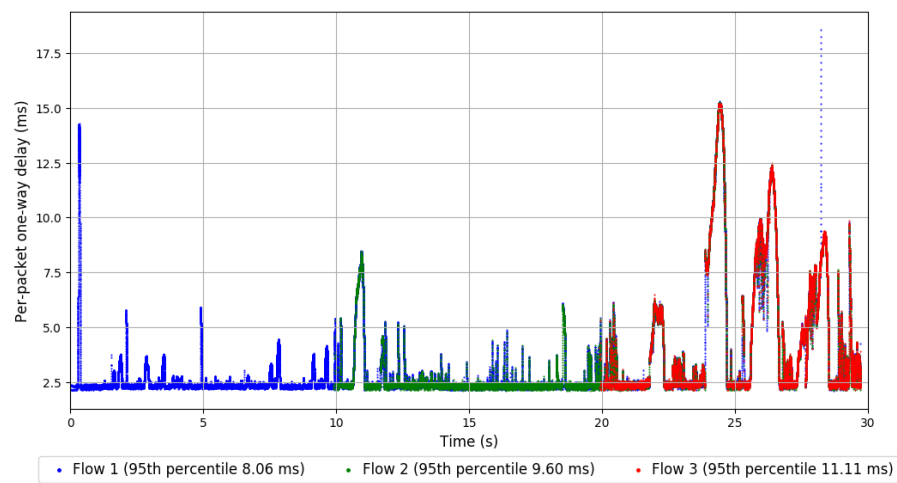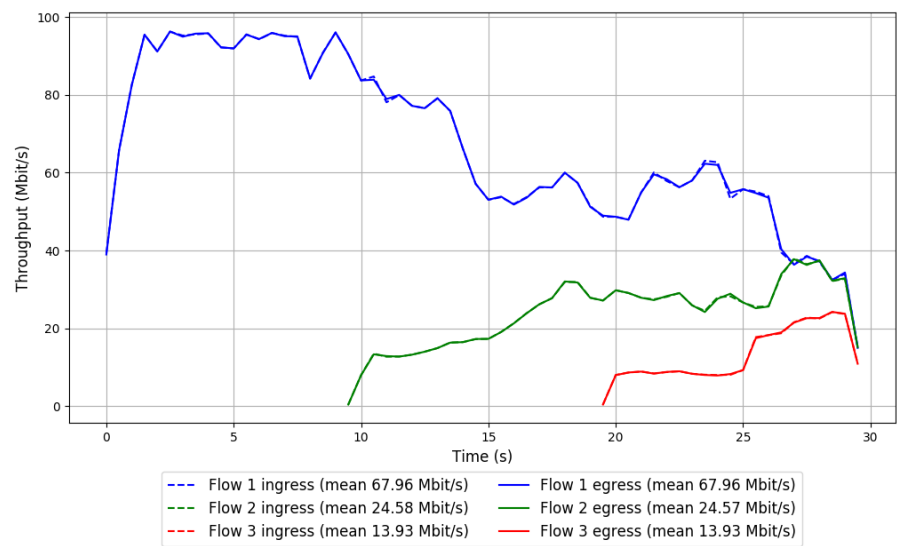
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 68.81 Mbit/s) --- Flow 1 egress (mean 68.81 Mbit/s)
Flow 2 ingress (mean 26.88 Mbit/s) --- Flow 2 egress (mean 26.89 Mbit/s)
Flow 3 ingress (mean 9.13 Mbit/s) --- Flow 3 egress (mean 9.13 Mbit/s)

Flow 1 (95th percentile 5.17 ms)   Flow 2 (95th percentile 5.56 ms)   Flow 3 (95th percentile 5.31 ms)

67

```
Run 3: Statistics of PCC

Start at: 2018-01-16 23:41:52
End at: 2018-01-16 23:42:22
Local clock offset: 0.013 ms
Remote clock offset: 0.101 ms


# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.96 Mbit/s
95th percentile per-packet one-way delay: 8.731 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 67.96 Mbit/s
95th percentile per-packet one-way delay: 8.062 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 24.57 Mbit/s
95th percentile per-packet one-way delay: 9.598 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 13.93 Mbit/s
95th percentile per-packet one-way delay: 11.111 ms
Loss rate: 0.08%
```
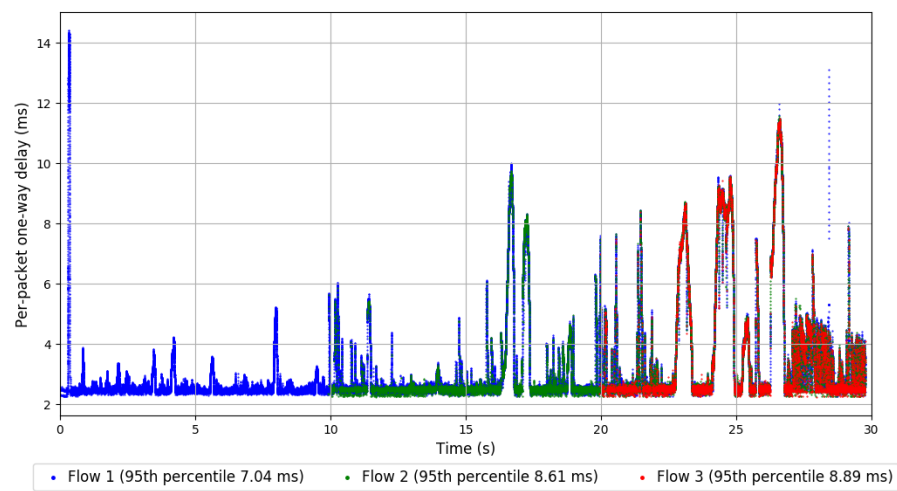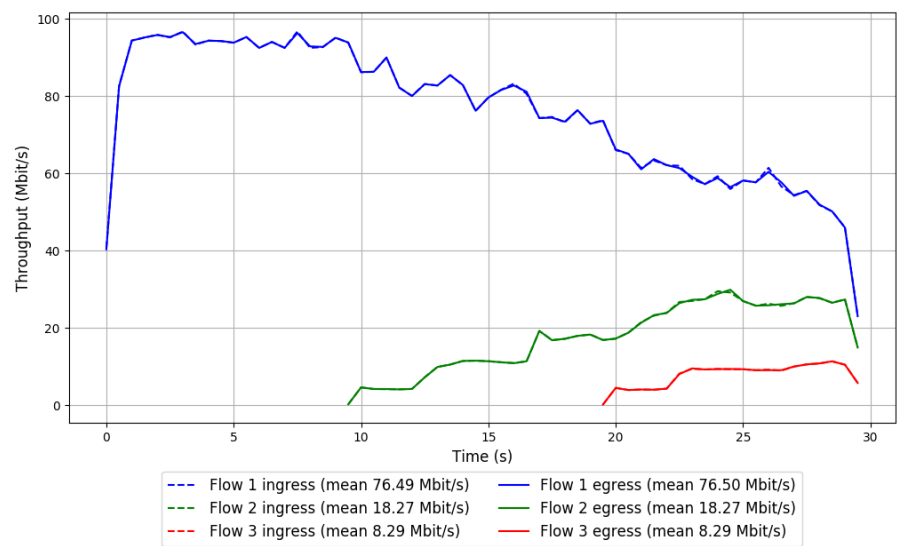
Run 3: Report of PCC — Data Link

- Flow 1 ingress (mean 67.96 Mbit/s) — Flow 1 egress (mean 67.96 Mbit/s)
- Flow 2 ingress (mean 24.58 Mbit/s) — Flow 2 egress (mean 24.57 Mbit/s)
- Flow 3 ingress (mean 13.93 Mbit/s) — Flow 3 egress (mean 13.93 Mbit/s)

- Flow 1 (95th percentile 8.06 ms)
- Flow 2 (95th percentile 9.60 ms)
- Flow 3 (95th percentile 11.11 ms)

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```
Run 4: Statistics of PCC

Start at: 2018-01-17 00:02:21
End at: 2018-01-17 00:02:51
Local clock offset: 0.126 ms
Remote clock offset: 0.228 ms

# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.41 Mbit/s
95th percentile per-packet one-way delay: 7.711 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 76.50 Mbit/s
95th percentile per-packet one-way delay: 7.037 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 18.27 Mbit/s
95th percentile per-packet one-way delay: 8.609 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 8.890 ms
Loss rate: 0.06%
```
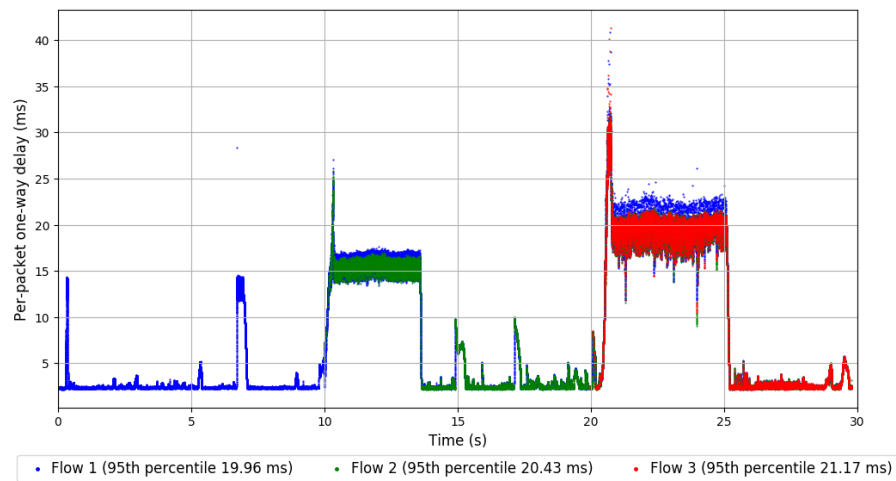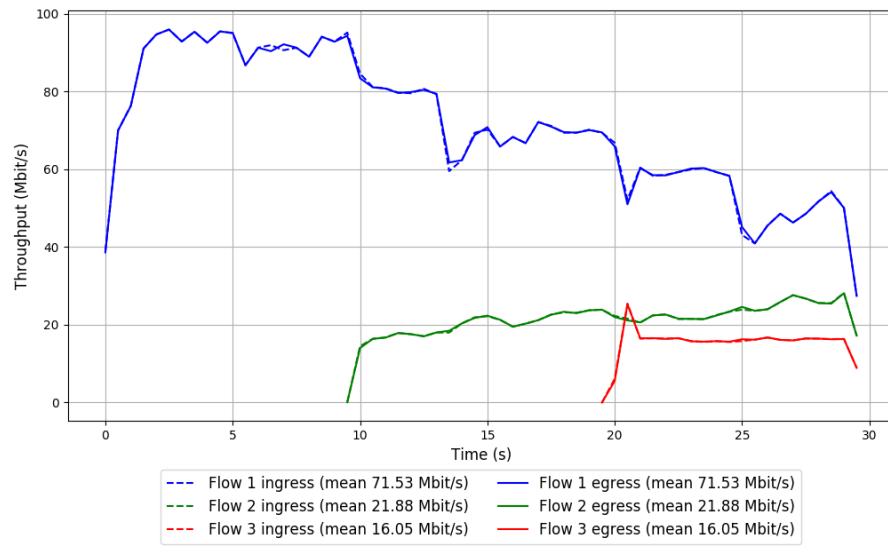
Run 4: Report of PCC — Data Link

Flow 1 ingress (mean 76.49 Mbit/s) — Flow 1 egress (mean 76.50 Mbit/s)
Flow 2 ingress (mean 18.27 Mbit/s) — Flow 2 egress (mean 18.27 Mbit/s)
Flow 3 ingress (mean 8.29 Mbit/s) — Flow 3 egress (mean 8.29 Mbit/s)

Flow 1 (95th percentile 7.04 ms) — Flow 2 (95th percentile 8.61 ms) — Flow 3 (95th percentile 8.89 ms)

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```
Run 5: Statistics of PCC

Start at: 2018-01-17 00:22:54
End at: 2018-01-17 00:23:24
Local clock offset: 0.2 ms
Remote clock offset: 0.451 ms


# Below is generated by plot.py at 2018-01-17 05:52:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.39 Mbit/s
95th percentile per-packet one-way delay: 20.206 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 71.53 Mbit/s
95th percentile per-packet one-way delay: 19.957 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 20.429 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 16.05 Mbit/s
95th percentile per-packet one-way delay: 21.168 ms
Loss rate: 0.04%
```
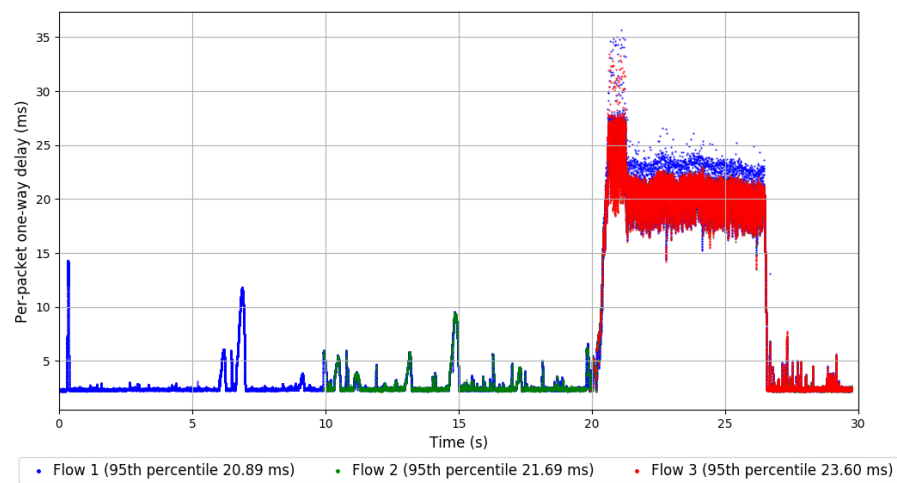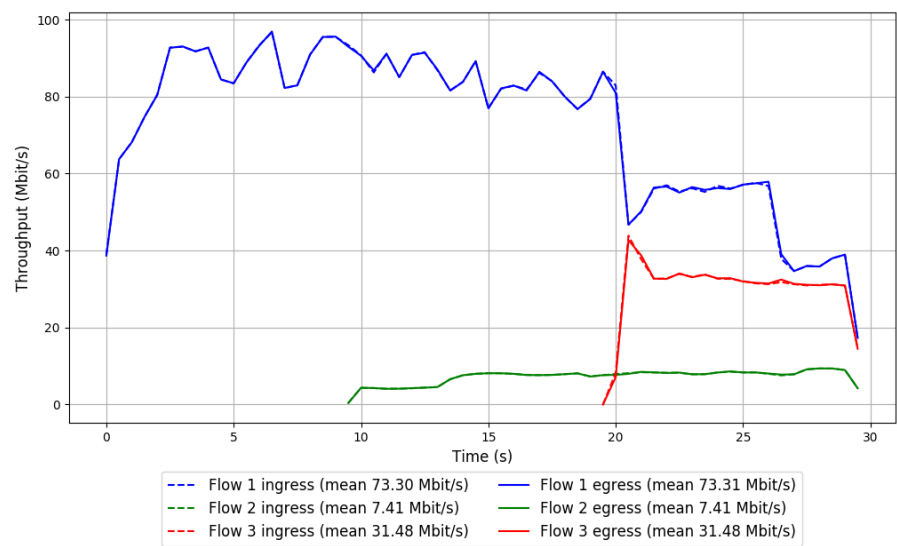
Run 5: Report of PCC — Data Link

```
Run 6: Statistics of PCC

Start at: 2018-01-17 00:43:27
End at: 2018-01-17 00:43:57
Local clock offset: 0.233 ms
Remote clock offset: 0.338 ms


# Below is generated by plot.py at 2018-01-17 05:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 21.354 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 73.31 Mbit/s
95th percentile per-packet one-way delay: 20.891 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 7.41 Mbit/s
95th percentile per-packet one-way delay: 21.694 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 31.48 Mbit/s
95th percentile per-packet one-way delay: 23.602 ms
Loss rate: 0.04%
```
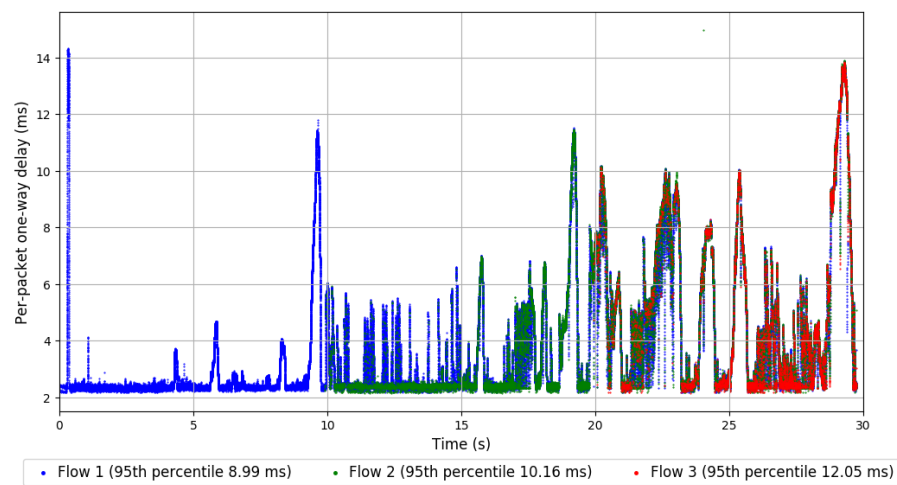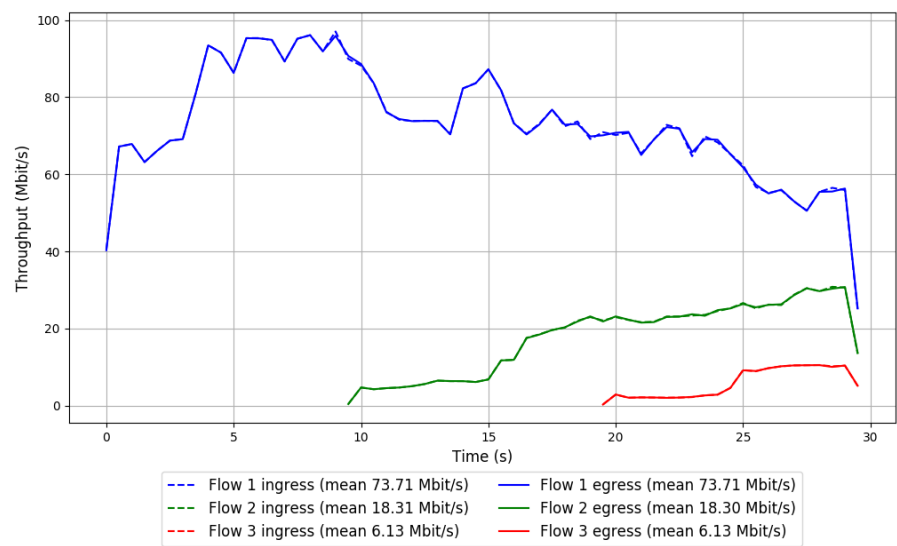
Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 73.30 Mbit/s)   Flow 1 egress (mean 73.31 Mbit/s)
Flow 2 ingress (mean 7.41 Mbit/s)   Flow 2 egress (mean 7.41 Mbit/s)
Flow 3 ingress (mean 31.48 Mbit/s)   Flow 3 egress (mean 31.48 Mbit/s)

Flow 1 (95th percentile 20.89 ms)   Flow 2 (95th percentile 21.69 ms)   Flow 3 (95th percentile 23.60 ms)

```
Run 7: Statistics of PCC

Start at: 2018-01-17 01:03:57
End at: 2018-01-17 01:04:27
Local clock offset: 0.32 ms
Remote clock offset: 0.192 ms

# Below is generated by plot.py at 2018-01-17 05:53:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.94 Mbit/s
95th percentile per-packet one-way delay: 9.223 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 73.71 Mbit/s
95th percentile per-packet one-way delay: 8.991 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 18.30 Mbit/s
95th percentile per-packet one-way delay: 10.162 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 12.048 ms
Loss rate: 0.08%
```
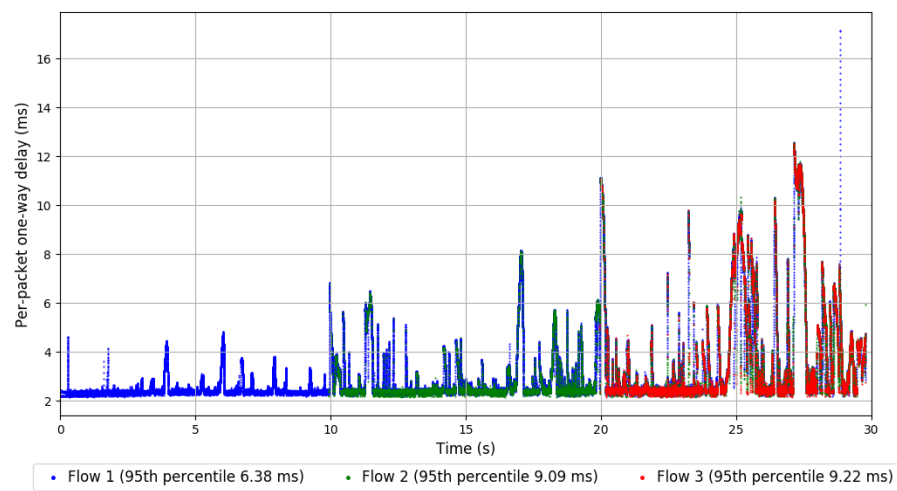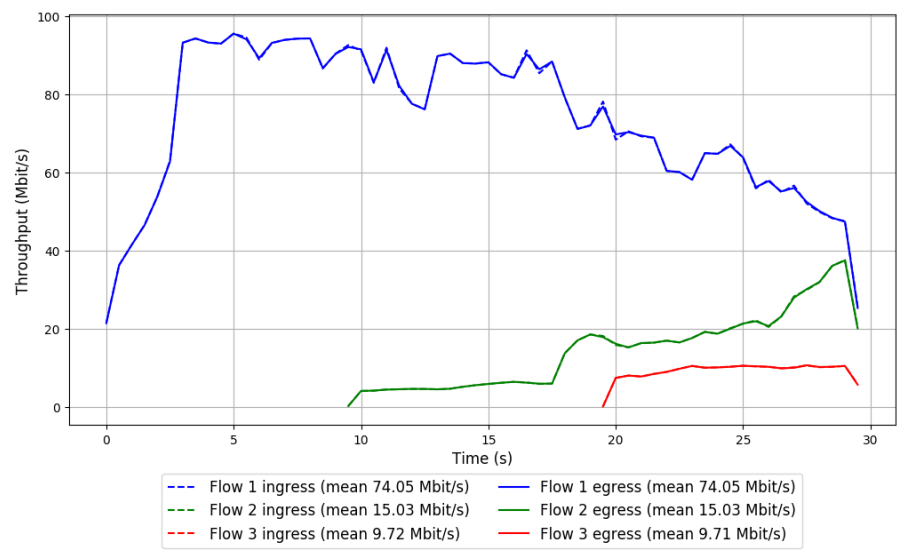
Run 7: Report of PCC — Data Link

- - - Flow 1 ingress (mean 73.71 Mbit/s) —— Flow 1 egress (mean 73.71 Mbit/s)
- - - Flow 2 ingress (mean 18.31 Mbit/s) —— Flow 2 egress (mean 18.30 Mbit/s)
- - - Flow 3 ingress (mean 6.13 Mbit/s) —— Flow 3 egress (mean 6.13 Mbit/s)

- Flow 1 (95th percentile 8.99 ms)   - Flow 2 (95th percentile 10.16 ms)   - Flow 3 (95th percentile 12.05 ms)

```
Run 8: Statistics of PCC

Start at: 2018-01-17 01:24:33
End at: 2018-01-17 01:25:03
Local clock offset: 0.37 ms
Remote clock offset: 0.162 ms


# Below is generated by plot.py at 2018-01-17 05:53:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.27 Mbit/s
95th percentile per-packet one-way delay: 7.165 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 74.05 Mbit/s
95th percentile per-packet one-way delay: 6.375 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 15.03 Mbit/s
95th percentile per-packet one-way delay: 9.085 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 9.71 Mbit/s
95th percentile per-packet one-way delay: 9.224 ms
Loss rate: 0.08%
```
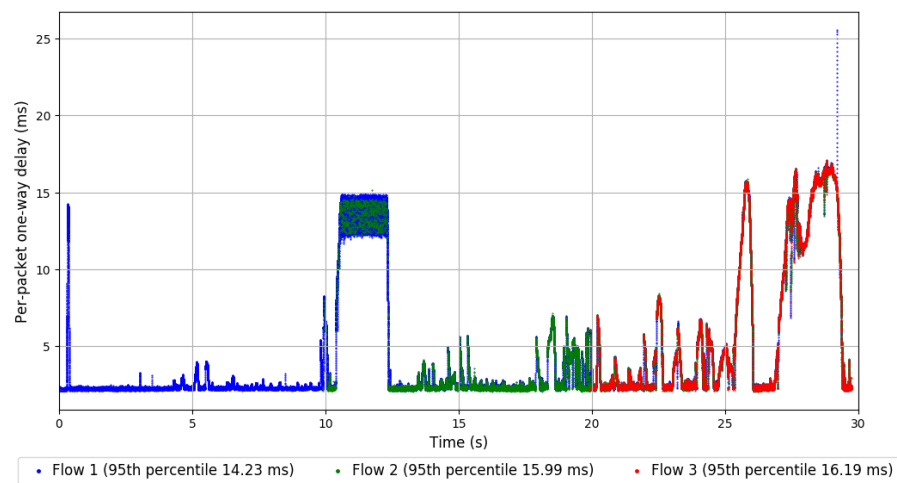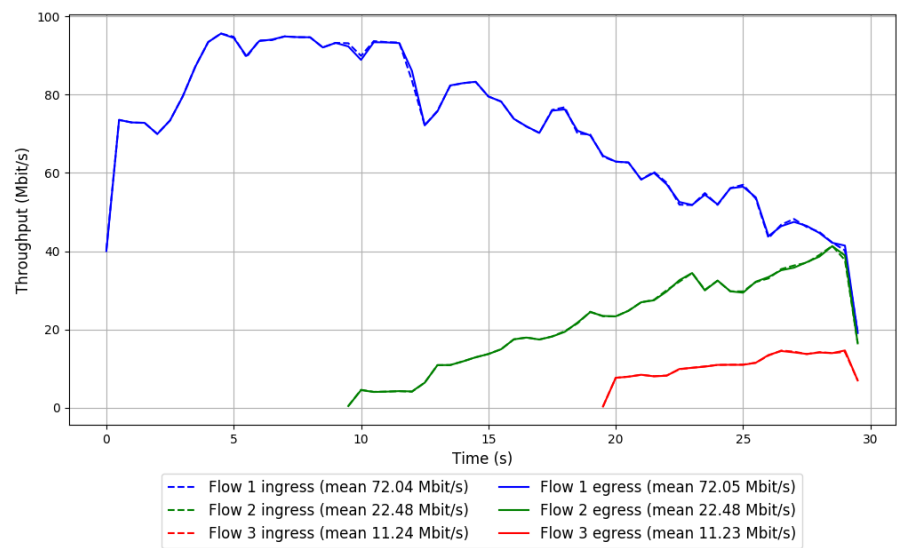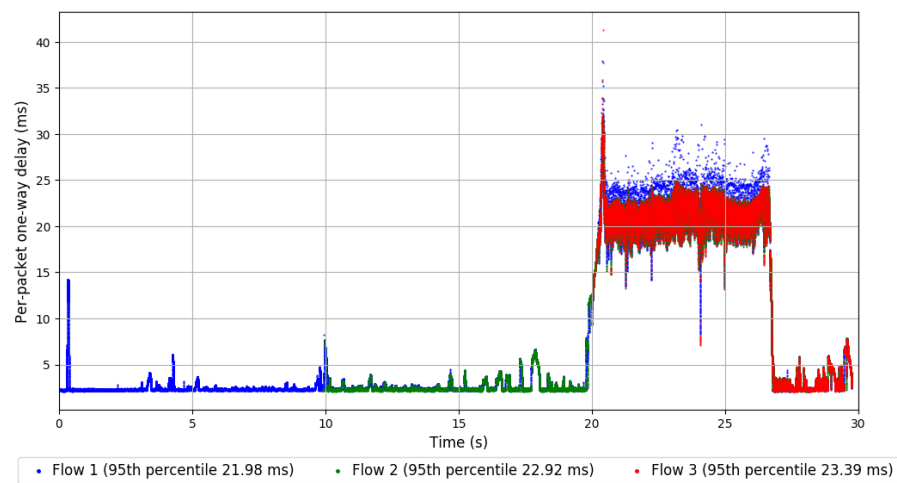
Run 8: Report of PCC — Data Link

- - - Flow 1 ingress (mean 74.05 Mbit/s) —— Flow 1 egress (mean 74.05 Mbit/s)
- - - Flow 2 ingress (mean 15.03 Mbit/s) —— Flow 2 egress (mean 15.03 Mbit/s)
- - - Flow 3 ingress (mean 9.72 Mbit/s) —— Flow 3 egress (mean 9.71 Mbit/s)

• Flow 1 (95th percentile 6.38 ms)   • Flow 2 (95th percentile 9.09 ms)   • Flow 3 (95th percentile 9.22 ms)

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```
Run 9: Statistics of PCC

Start at: 2018-01-17 01:45:05
End at: 2018-01-17 01:45:35
Local clock offset: 0.349 ms
Remote clock offset: 0.086 ms


# Below is generated by plot.py at 2018-01-17 05:53:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.76 Mbit/s
95th percentile per-packet one-way delay: 14.627 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 72.05 Mbit/s
95th percentile per-packet one-way delay: 14.235 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 22.48 Mbit/s
95th percentile per-packet one-way delay: 15.989 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 11.23 Mbit/s
95th percentile per-packet one-way delay: 16.186 ms
Loss rate: 0.05%
```
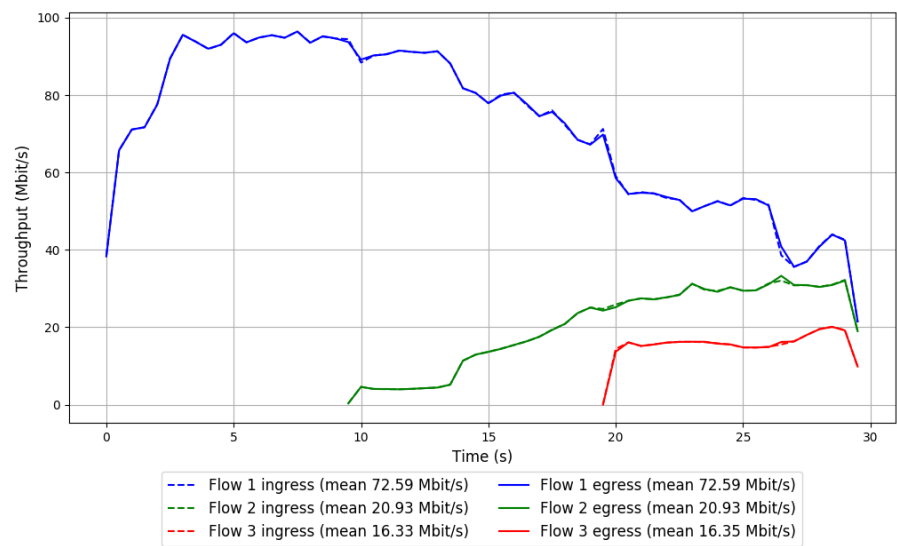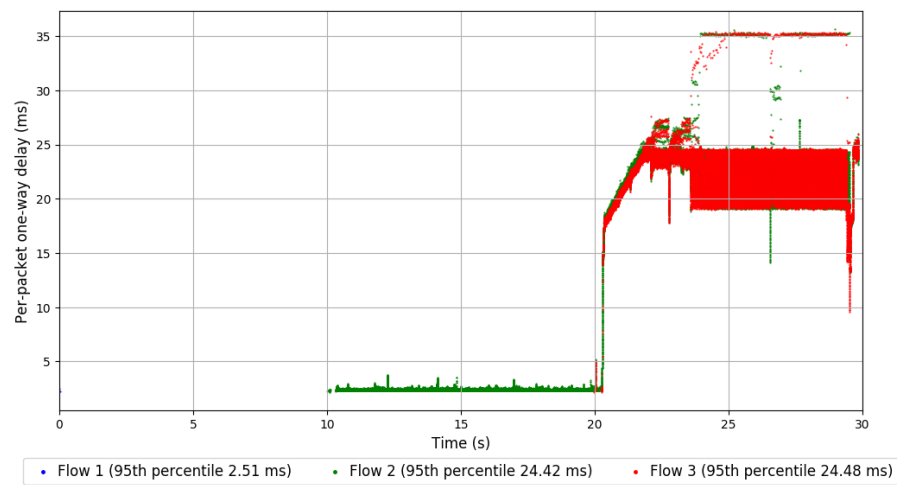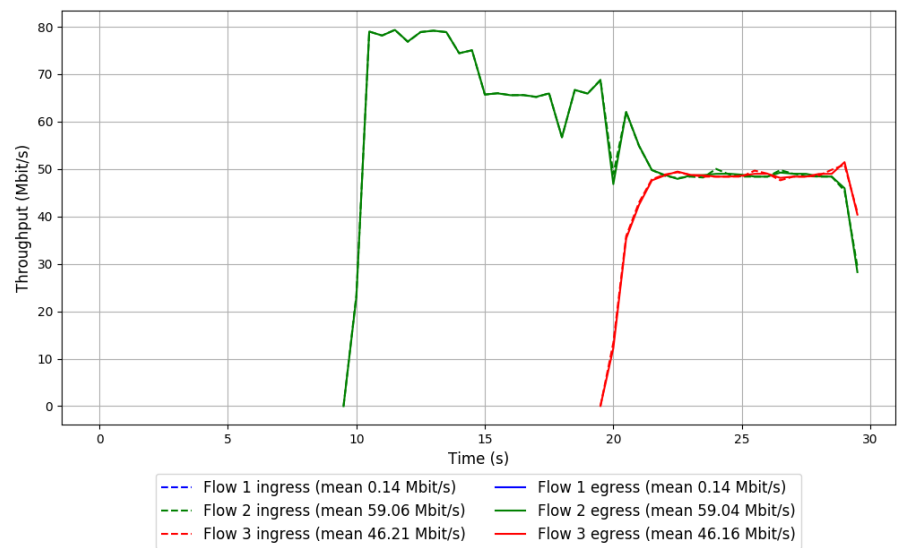
Run 9: Report of PCC — Data Link

Flow 1 ingress (mean 72.04 Mbit/s) ---- Flow 1 egress (mean 72.05 Mbit/s)
Flow 2 ingress (mean 22.48 Mbit/s) ---- Flow 2 egress (mean 22.48 Mbit/s)
Flow 3 ingress (mean 11.24 Mbit/s) ---- Flow 3 egress (mean 11.23 Mbit/s)

Flow 1 (95th percentile 14.23 ms)   Flow 2 (95th percentile 15.99 ms)   Flow 3 (95th percentile 16.19 ms)

```
Run 10: Statistics of PCC

Start at: 2018-01-17 02:05:38
End at: 2018-01-17 02:06:08
Local clock offset: 0.37 ms
Remote clock offset: 0.033 ms


# Below is generated by plot.py at 2018-01-17 05:53:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.93 Mbit/s
95th percentile per-packet one-way delay: 22.400 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 21.985 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 20.93 Mbit/s
95th percentile per-packet one-way delay: 22.923 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 16.35 Mbit/s
95th percentile per-packet one-way delay: 23.386 ms
Loss rate: 0.05%
```
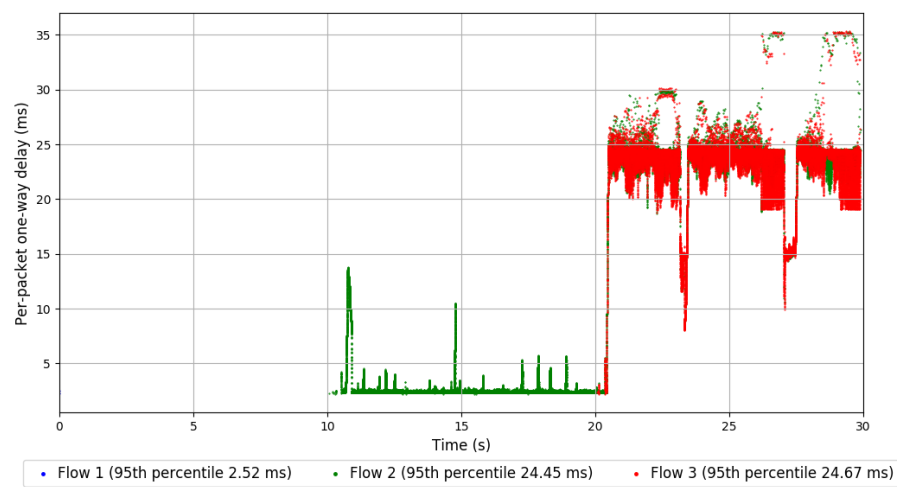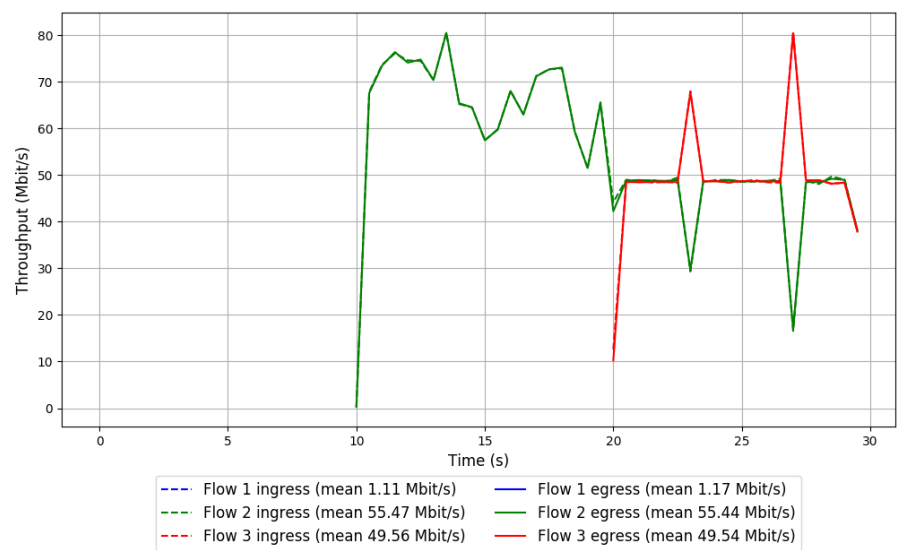
Run 10: Report of PCC — Data Link

Flow 1 ingress (mean 72.59 Mbit/s) --- Flow 1 egress (mean 72.59 Mbit/s)
Flow 2 ingress (mean 20.93 Mbit/s) --- Flow 2 egress (mean 20.93 Mbit/s)
Flow 3 ingress (mean 16.33 Mbit/s) --- Flow 3 egress (mean 16.35 Mbit/s)

Flow 1 (95th percentile 21.98 ms)　　Flow 2 (95th percentile 22.92 ms)　　Flow 3 (95th percentile 23.39 ms)
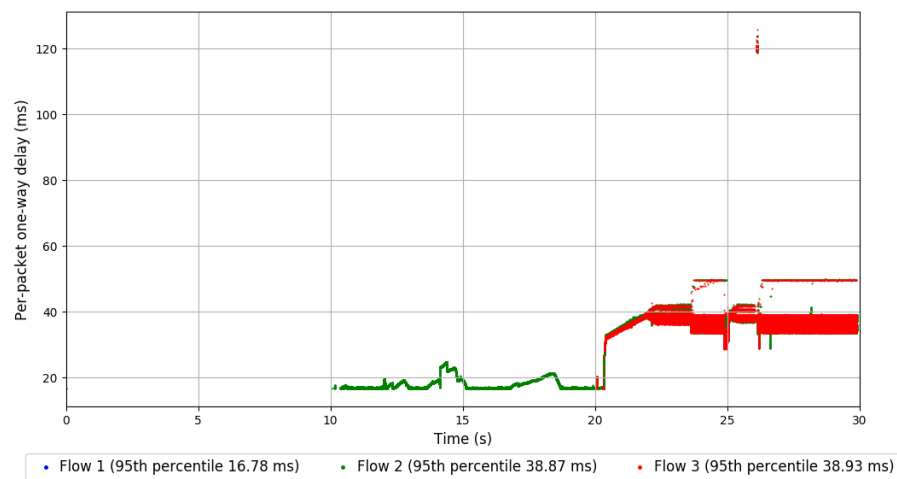
83

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-16 23:04:04
End at: 2018-01-16 23:04:34
Local clock offset: -0.021 ms
Remote clock offset: -0.435 ms


# Below is generated by plot.py at 2018-01-17 05:53:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 24.449 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 2.506 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.04 Mbit/s
95th percentile per-packet one-way delay: 24.423 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 46.16 Mbit/s
95th percentile per-packet one-way delay: 24.483 ms
Loss rate: 0.28%
```
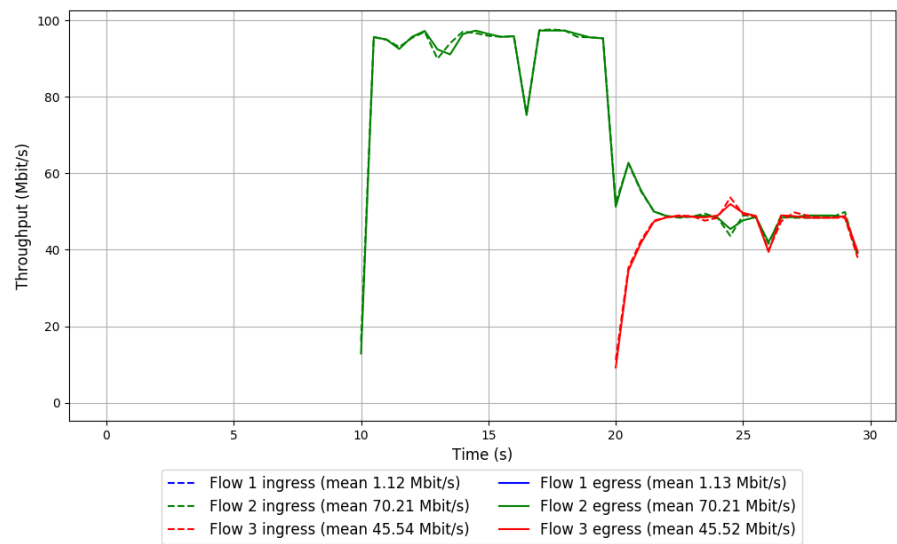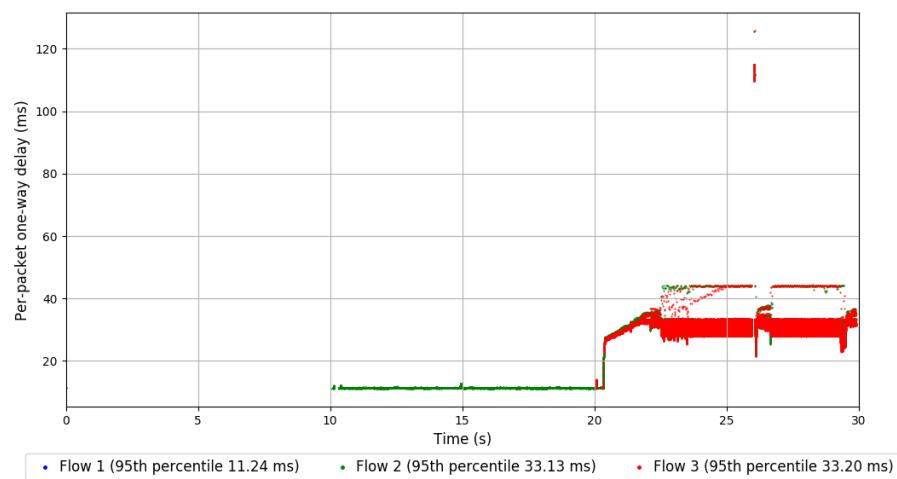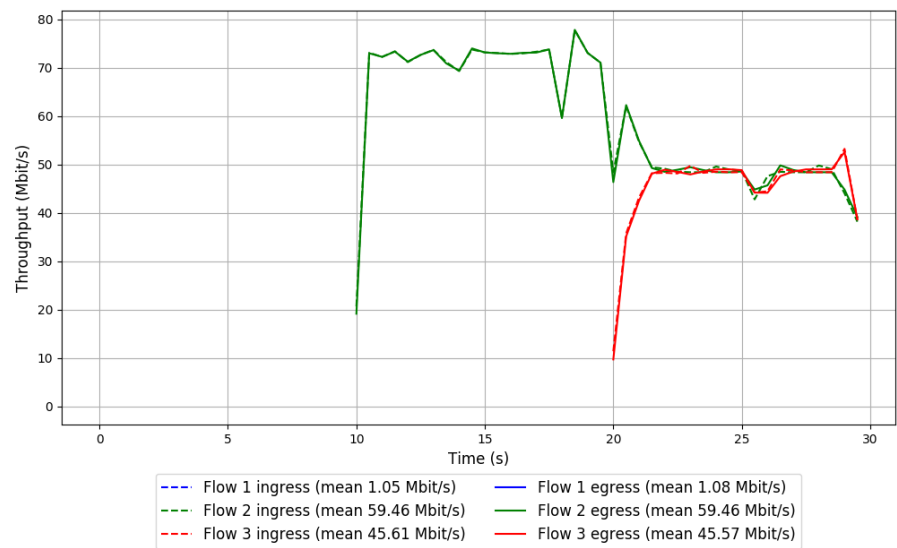
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.14 Mbit/s)   Flow 1 egress (mean 0.14 Mbit/s)
Flow 2 ingress (mean 59.06 Mbit/s)   Flow 2 egress (mean 59.04 Mbit/s)
Flow 3 ingress (mean 46.21 Mbit/s)   Flow 3 egress (mean 46.16 Mbit/s)

Flow 1 (95th percentile 2.51 ms)   Flow 2 (95th percentile 24.42 ms)   Flow 3 (95th percentile 24.48 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-16 23:24:38
End at: 2018-01-16 23:25:08
Local clock offset: 0.028 ms
Remote clock offset: -0.149 ms


# Below is generated by plot.py at 2018-01-17 05:53:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.03 Mbit/s
95th percentile per-packet one-way delay: 24.479 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 2.522 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.44 Mbit/s
95th percentile per-packet one-way delay: 24.454 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 49.54 Mbit/s
95th percentile per-packet one-way delay: 24.668 ms
Loss rate: 0.22%
```

Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 1.11 Mbit/s)   Flow 1 egress (mean 1.17 Mbit/s)
Flow 2 ingress (mean 55.47 Mbit/s)   Flow 2 egress (mean 55.44 Mbit/s)
Flow 3 ingress (mean 49.56 Mbit/s)   Flow 3 egress (mean 49.54 Mbit/s)

Flow 1 (95th percentile 2.52 ms)   Flow 2 (95th percentile 24.45 ms)   Flow 3 (95th percentile 24.67 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-16 23:45:12
End at: 2018-01-16 23:45:42
Local clock offset: 0.085 ms
Remote clock offset: -14.281 ms


# Below is generated by plot.py at 2018-01-17 05:53:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.66 Mbit/s
95th percentile per-packet one-way delay: 38.896 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 16.778 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 38.868 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 45.52 Mbit/s
95th percentile per-packet one-way delay: 38.933 ms
Loss rate: 0.24%
```
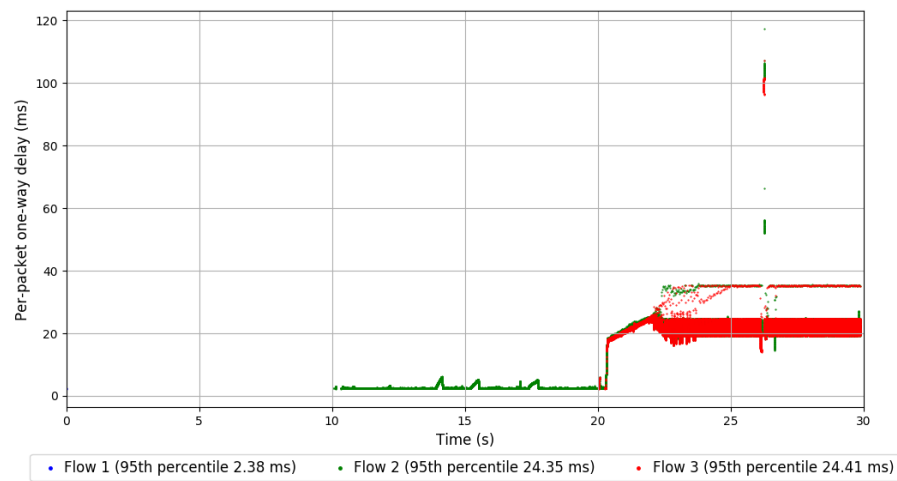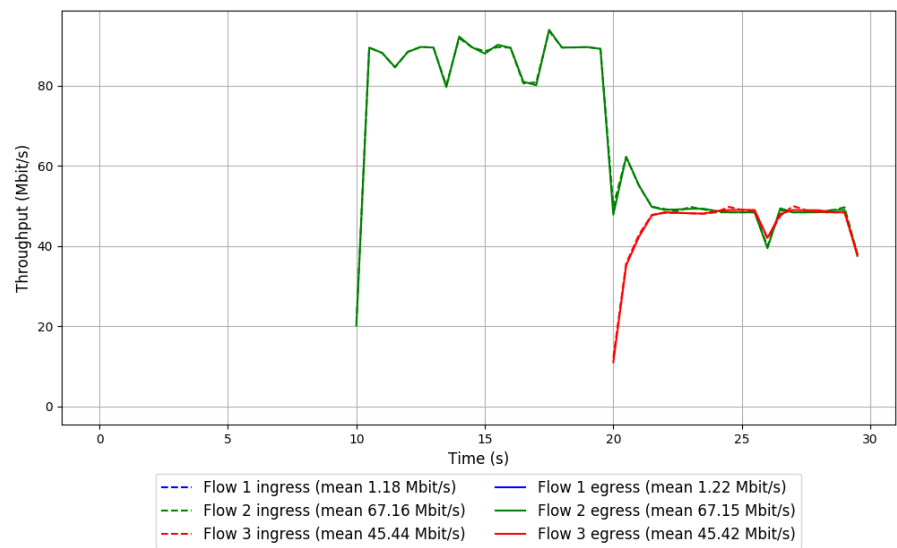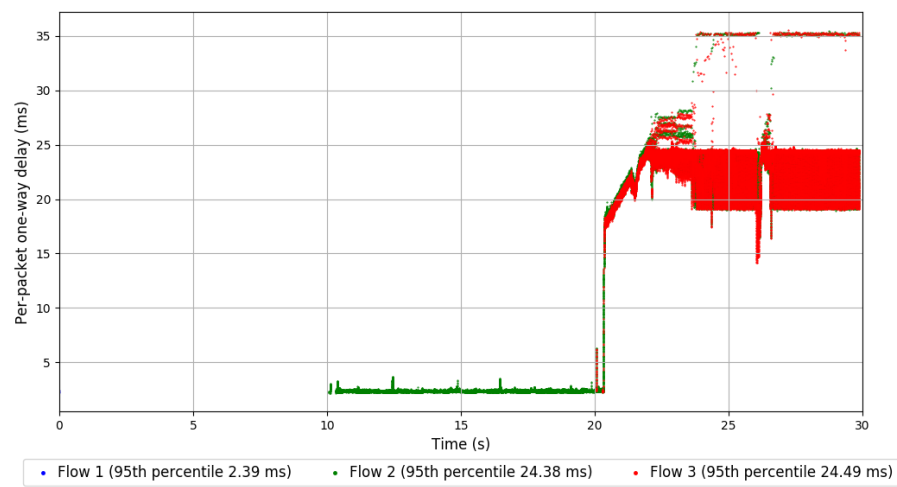
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 1.12 Mbit/s) --- Flow 1 egress (mean 1.13 Mbit/s)
Flow 2 ingress (mean 70.21 Mbit/s) --- Flow 2 egress (mean 70.21 Mbit/s)
Flow 3 ingress (mean 45.54 Mbit/s) --- Flow 3 egress (mean 45.52 Mbit/s)

Flow 1 (95th percentile 16.78 ms)   Flow 2 (95th percentile 38.87 ms)   Flow 3 (95th percentile 38.93 ms)

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```
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-17 00:05:41
End at: 2018-01-17 00:06:11
Local clock offset: 0.145 ms
Remote clock offset: -8.389 ms


# Below is generated by plot.py at 2018-01-17 05:54:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.55 Mbit/s
95th percentile per-packet one-way delay: 33.161 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 11.245 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.46 Mbit/s
95th percentile per-packet one-way delay: 33.132 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 45.57 Mbit/s
95th percentile per-packet one-way delay: 33.196 ms
Loss rate: 0.32%
```
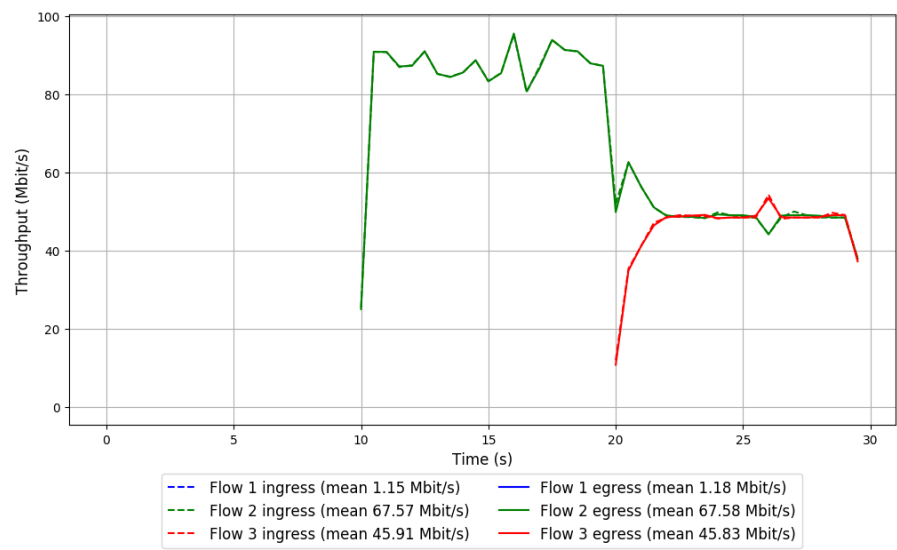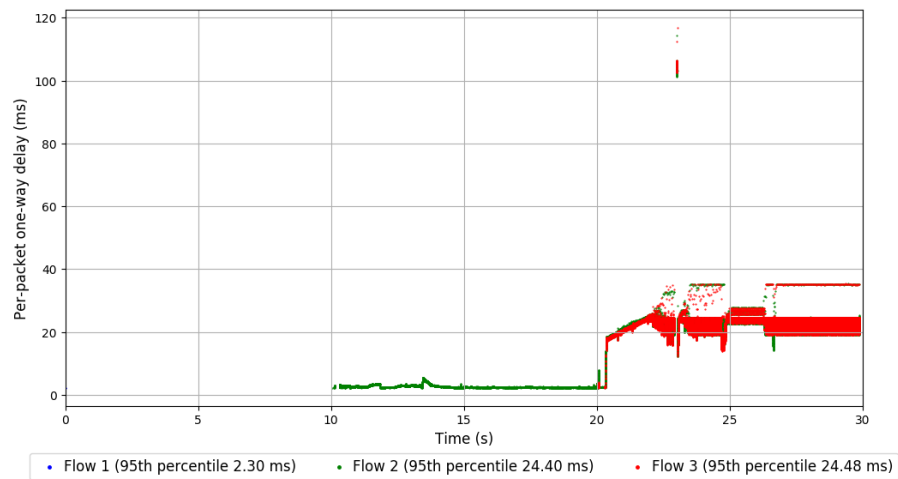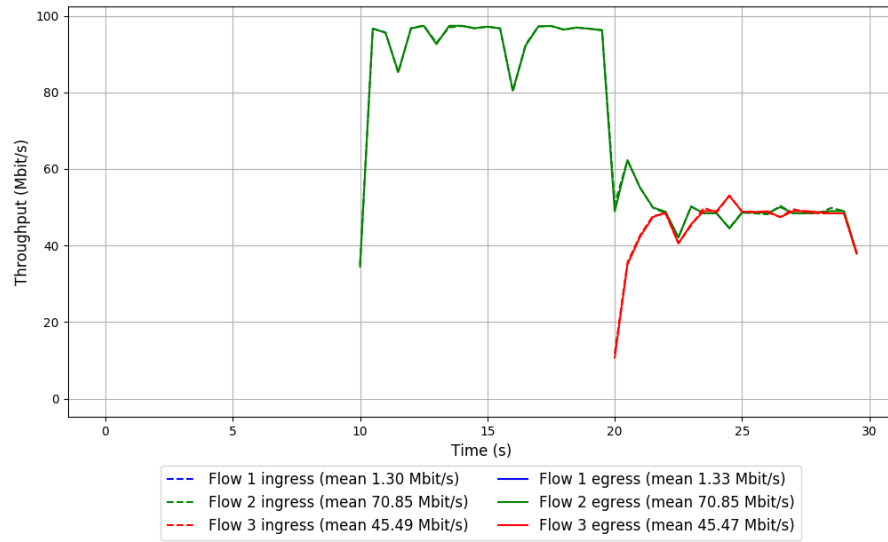
Run 4: Report of QUIC Cubic — Data Link

Throughput (Mbit/s) vs Time (s)

--- Flow 1 ingress (mean 1.05 Mbit/s)   —— Flow 1 egress (mean 1.08 Mbit/s)
--- Flow 2 ingress (mean 59.46 Mbit/s)   —— Flow 2 egress (mean 59.46 Mbit/s)
--- Flow 3 ingress (mean 45.61 Mbit/s)   —— Flow 3 egress (mean 45.57 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

• Flow 1 (95th percentile 11.24 ms)   • Flow 2 (95th percentile 33.13 ms)   • Flow 3 (95th percentile 33.20 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-17 00:26:14
End at: 2018-01-17 00:26:44
Local clock offset: 0.12 ms
Remote clock offset: 0.445 ms

# Below is generated by plot.py at 2018-01-17 05:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 24.381 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 2.377 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.15 Mbit/s
95th percentile per-packet one-way delay: 24.354 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 45.42 Mbit/s
95th percentile per-packet one-way delay: 24.414 ms
Loss rate: 0.24%
```
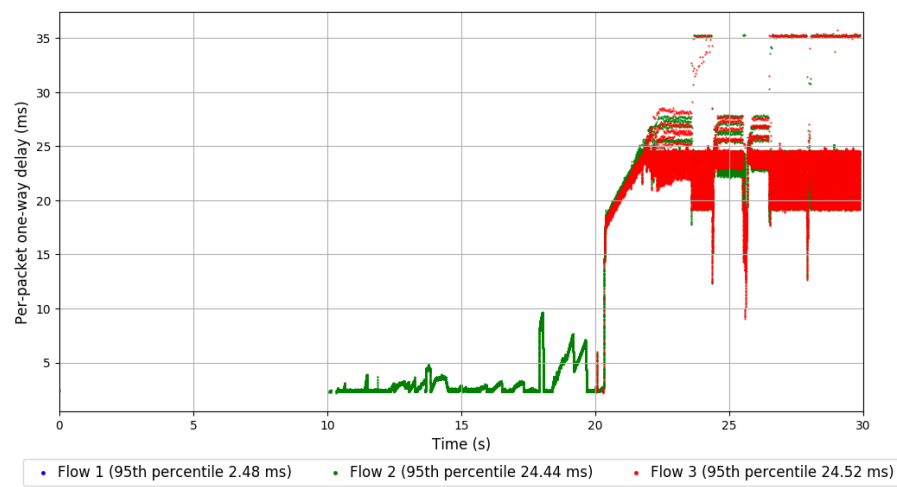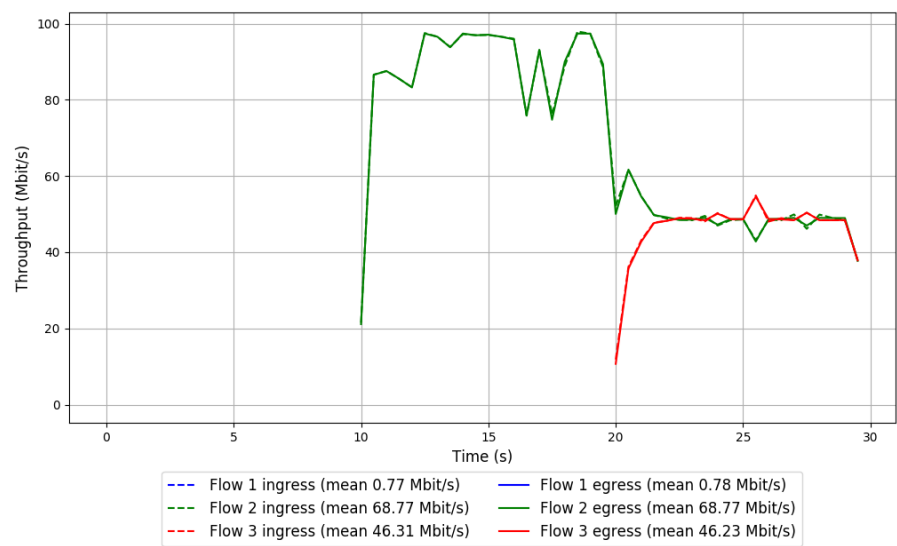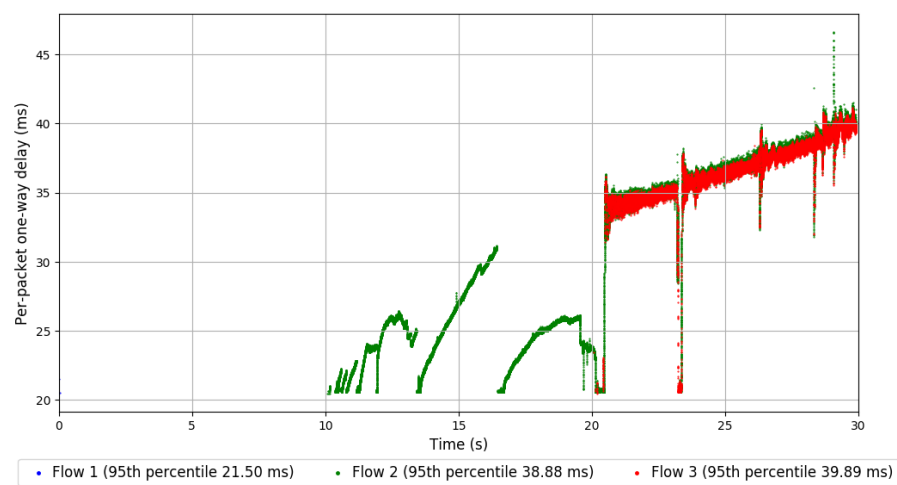
Run 5: Report of QUIC Cubic — Data Link

Legend:
- Flow 1 ingress (mean 1.18 Mbit/s)
- Flow 1 egress (mean 1.22 Mbit/s)
- Flow 2 ingress (mean 67.16 Mbit/s)
- Flow 2 egress (mean 67.15 Mbit/s)
- Flow 3 ingress (mean 45.44 Mbit/s)
- Flow 3 egress (mean 45.42 Mbit/s)

Legend:
- Flow 1 (95th percentile 2.38 ms)
- Flow 2 (95th percentile 24.35 ms)
- Flow 3 (95th percentile 24.41 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-17 00:46:47
End at: 2018-01-17 00:47:17
Local clock offset: 0.245 ms
Remote clock offset: 0.321 ms


# Below is generated by plot.py at 2018-01-17 05:54:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 24.427 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 2.394 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.58 Mbit/s
95th percentile per-packet one-way delay: 24.384 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 45.83 Mbit/s
95th percentile per-packet one-way delay: 24.488 ms
Loss rate: 0.34%
```
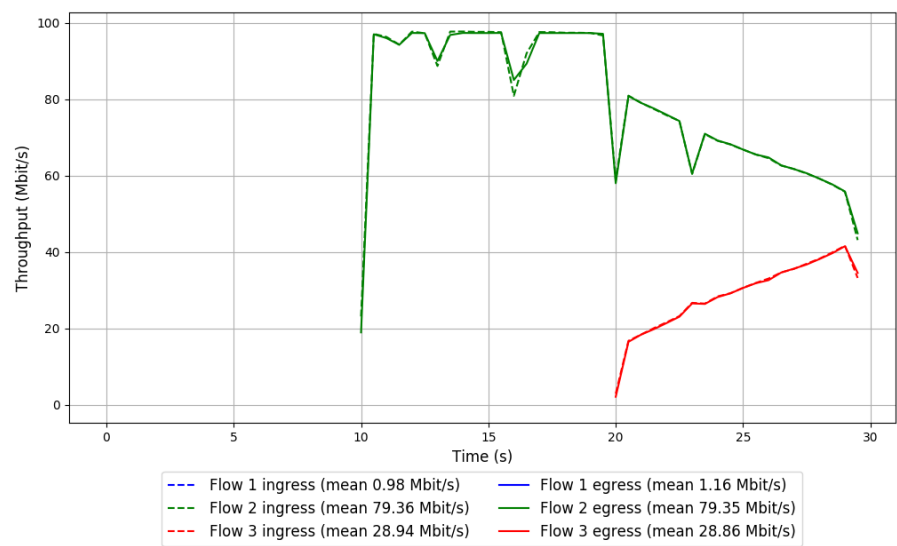
Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 1.15 Mbit/s)   Flow 1 egress (mean 1.18 Mbit/s)
Flow 2 ingress (mean 67.57 Mbit/s)   Flow 2 egress (mean 67.58 Mbit/s)
Flow 3 ingress (mean 45.91 Mbit/s)   Flow 3 egress (mean 45.83 Mbit/s)

Flow 1 (95th percentile 2.39 ms)   Flow 2 (95th percentile 24.38 ms)   Flow 3 (95th percentile 24.49 ms)

Run 7: Statistics of QUIC Cubic

Start at: 2018-01-17 01:07:16
End at: 2018-01-17 01:07:46
Local clock offset: 0.32 ms
Remote clock offset: 0.156 ms

Below is generated by plot.py at 2018-01-17 05:54:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 62.05 Mbit/s
95th percentile per-packet one-way delay: 24.435 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 2.299 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 70.85 Mbit/s
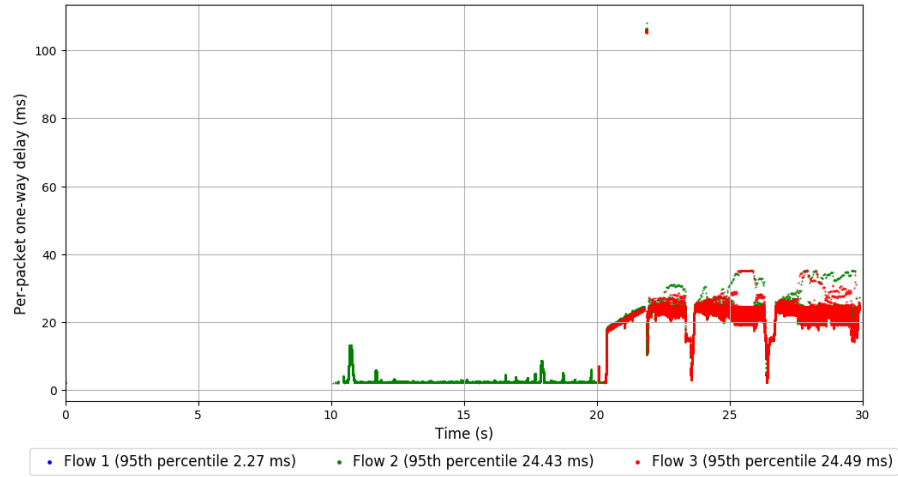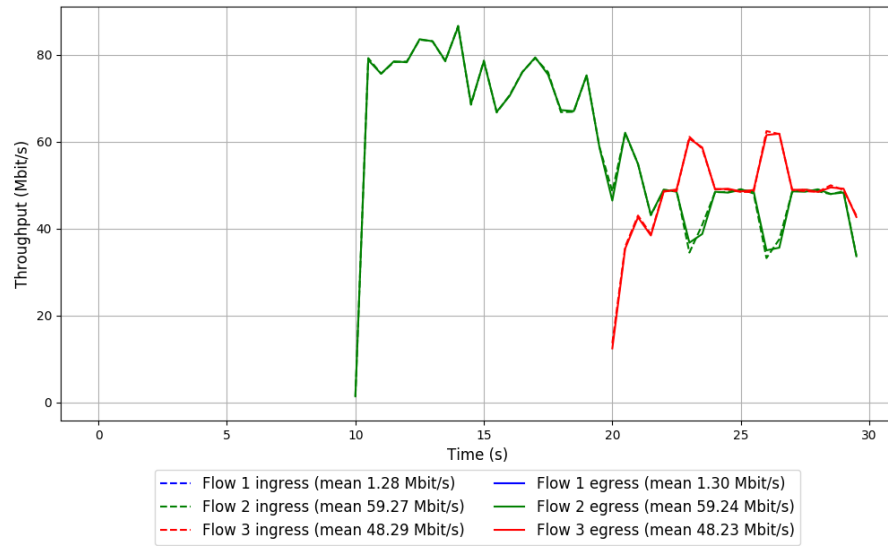95th percentile per-packet one-way delay: 24.400 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 45.47 Mbit/s
95th percentile per-packet one-way delay: 24.484 ms
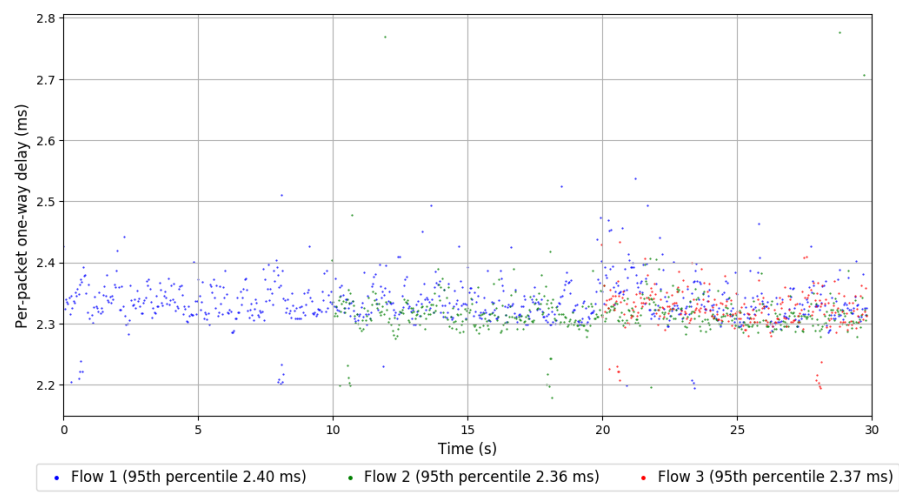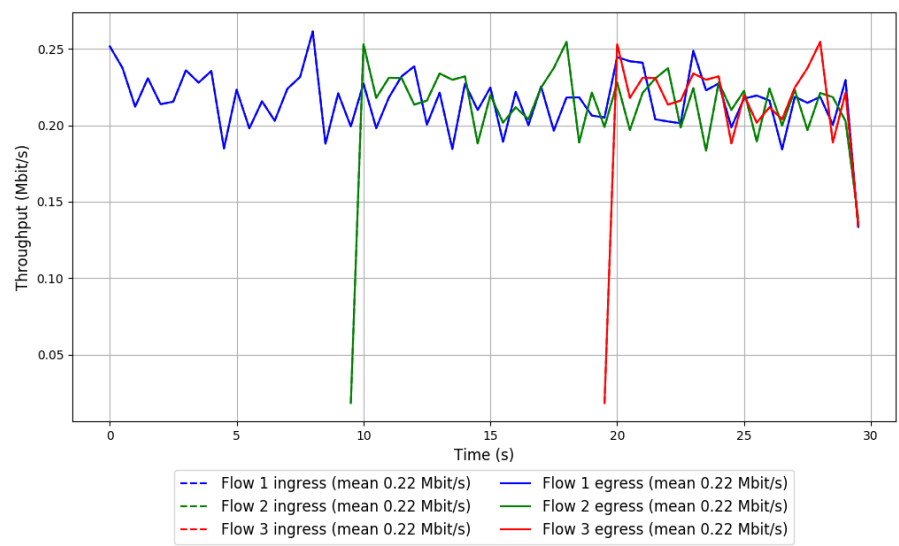Loss rate: 0.24%

Run 7: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 1.30 Mbit/s) --- Flow 1 egress (mean 1.33 Mbit/s)
Flow 2 ingress (mean 70.85 Mbit/s) --- Flow 2 egress (mean 70.85 Mbit/s)
Flow 3 ingress (mean 45.49 Mbit/s) --- Flow 3 egress (mean 45.47 Mbit/s)

Flow 1 (95th percentile 2.30 ms)   Flow 2 (95th percentile 24.40 ms)   Flow 3 (95th percentile 24.48 ms)

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```
Run 8: Statistics of QUIC Cubic

Start at: 2018-01-17 01:27:53
End at: 2018-01-17 01:28:23
Local clock offset: 0.392 ms
Remote clock offset: 0.131 ms


# Below is generated by plot.py at 2018-01-17 05:54:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.93 Mbit/s
95th percentile per-packet one-way delay: 24.466 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 2.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.77 Mbit/s
95th percentile per-packet one-way delay: 24.436 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 46.23 Mbit/s
95th percentile per-packet one-way delay: 24.517 ms
Loss rate: 0.23%
```
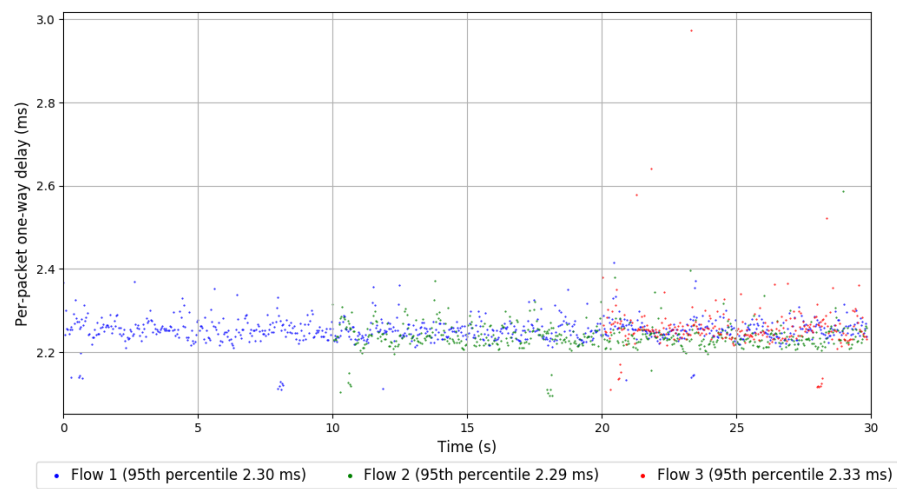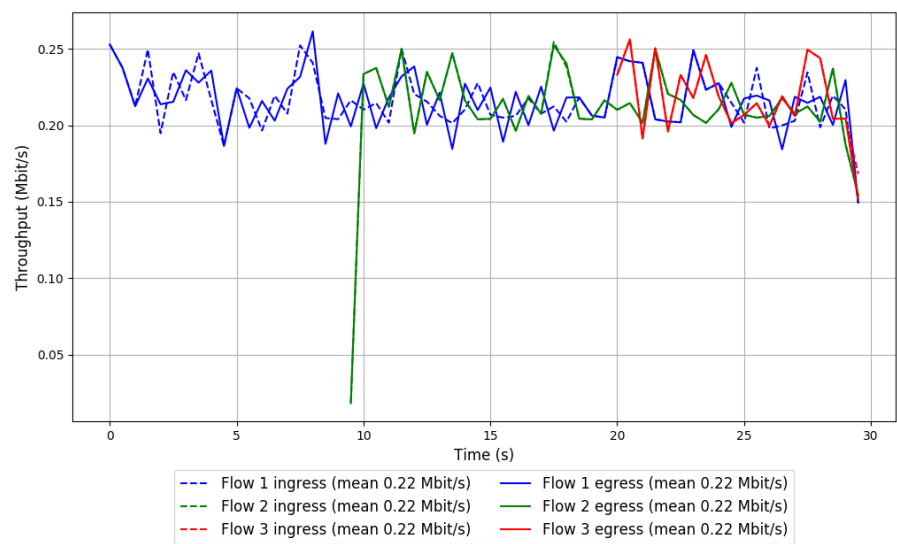
Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.77 Mbit/s) --- Flow 1 egress (mean 0.78 Mbit/s)
Flow 2 ingress (mean 68.77 Mbit/s) --- Flow 2 egress (mean 68.77 Mbit/s)
Flow 3 ingress (mean 46.31 Mbit/s) --- Flow 3 egress (mean 46.23 Mbit/s)

Flow 1 (95th percentile 2.48 ms)   Flow 2 (95th percentile 24.44 ms)   Flow 3 (95th percentile 24.52 ms)

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```
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-17 01:48:25
End at: 2018-01-17 01:48:55
Local clock offset: 0.419 ms
Remote clock offset: -18.174 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.20 Mbit/s
95th percentile per-packet one-way delay: 39.330 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 21.503 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 79.35 Mbit/s
95th percentile per-packet one-way delay: 38.882 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 28.86 Mbit/s
95th percentile per-packet one-way delay: 39.891 ms
Loss rate: 0.35%
```
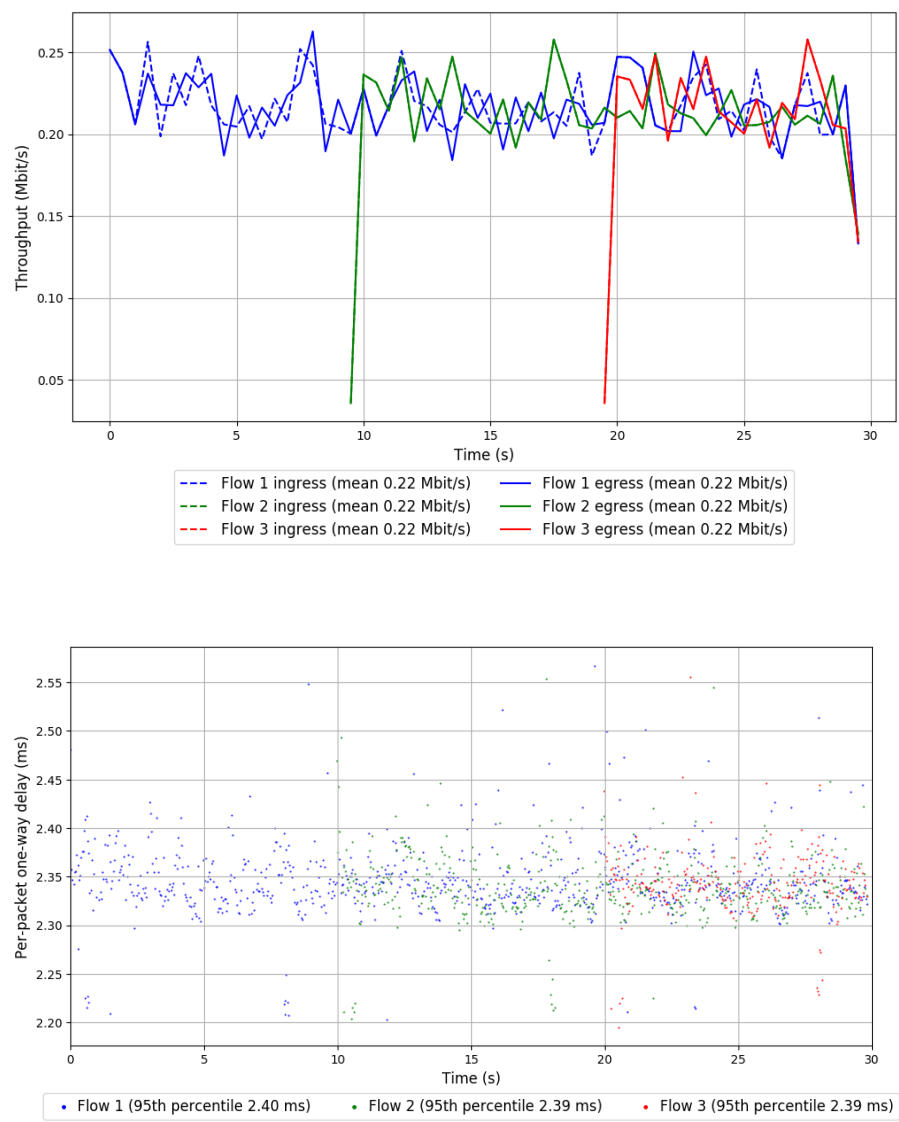
Run 9: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.98 Mbit/s) --- Flow 1 egress (mean 1.16 Mbit/s)
Flow 2 ingress (mean 79.36 Mbit/s) --- Flow 2 egress (mean 79.35 Mbit/s)
Flow 3 ingress (mean 28.94 Mbit/s) --- Flow 3 egress (mean 28.86 Mbit/s)

Flow 1 (95th percentile 21.50 ms)   Flow 2 (95th percentile 38.88 ms)   Flow 3 (95th percentile 39.89 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-17 02:08:58
End at: 2018-01-17 02:09:28
Local clock offset: 0.435 ms
Remote clock offset: 0.011 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.17 Mbit/s
95th percentile per-packet one-way delay: 24.445 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 2.274 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 24.432 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 48.23 Mbit/s
95th percentile per-packet one-way delay: 24.486 ms
Loss rate: 0.28%
```
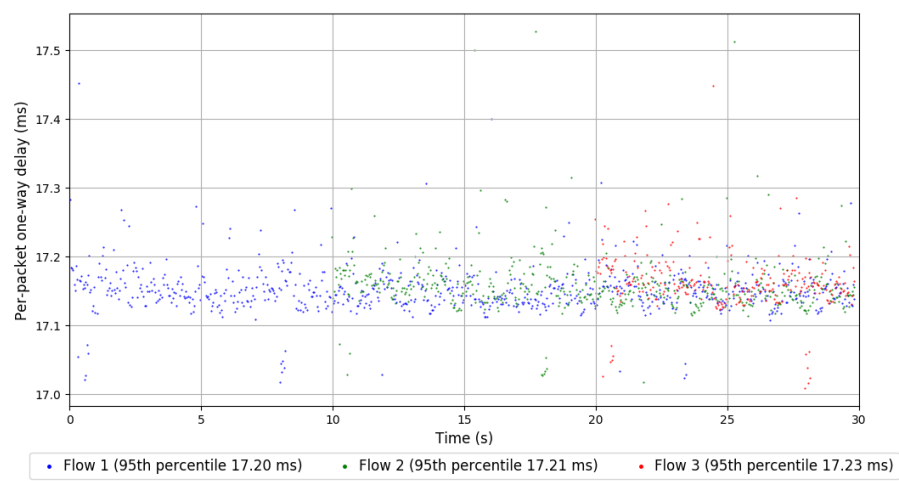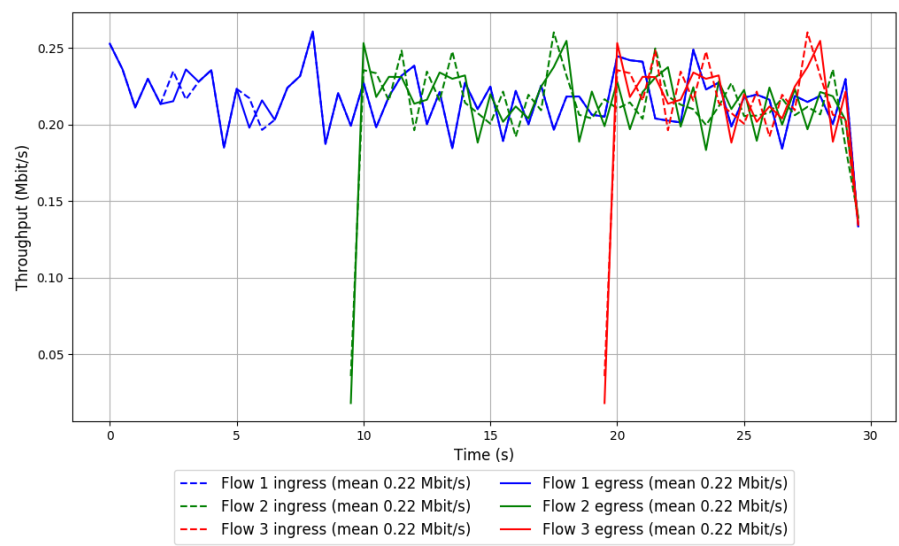
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-01-16 22:59:40
End at: 2018-01-16 23:00:10
Local clock offset: -0.106 ms
Remote clock offset: -0.534 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.360 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.369 ms
Loss rate: 0.00%
```
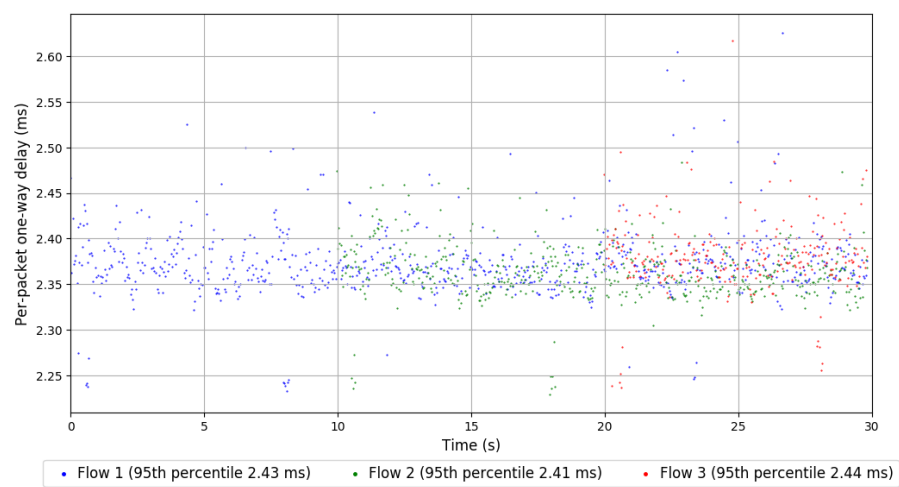
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-01-16 23:20:14
End at: 2018-01-16 23:20:44
Local clock offset: -0.041 ms
Remote clock offset: -0.188 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.299 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.298 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.290 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.326 ms
Loss rate: 0.38%
```
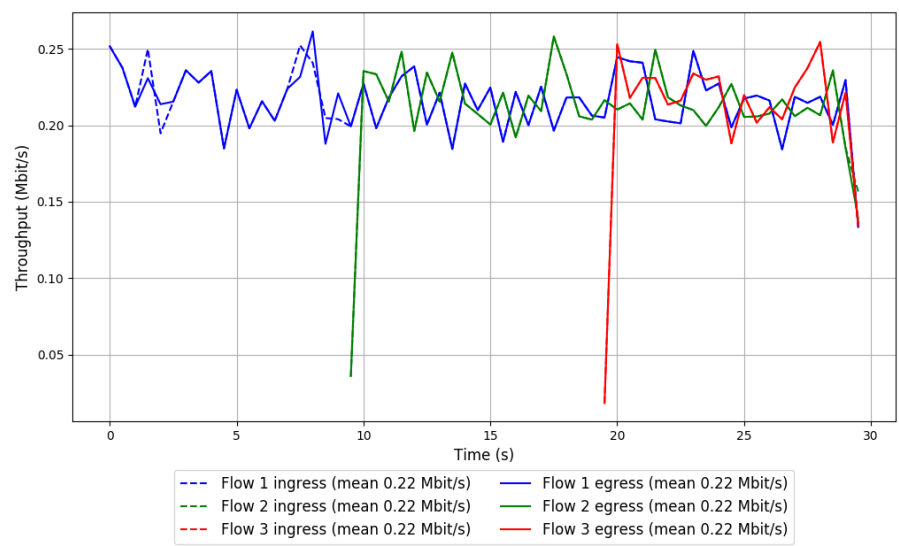
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-01-16 23:40:48
End at: 2018-01-16 23:41:18
Local clock offset: 0.067 ms
Remote clock offset: 0.089 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.400 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.391 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.387 ms
Loss rate: 0.00%
```
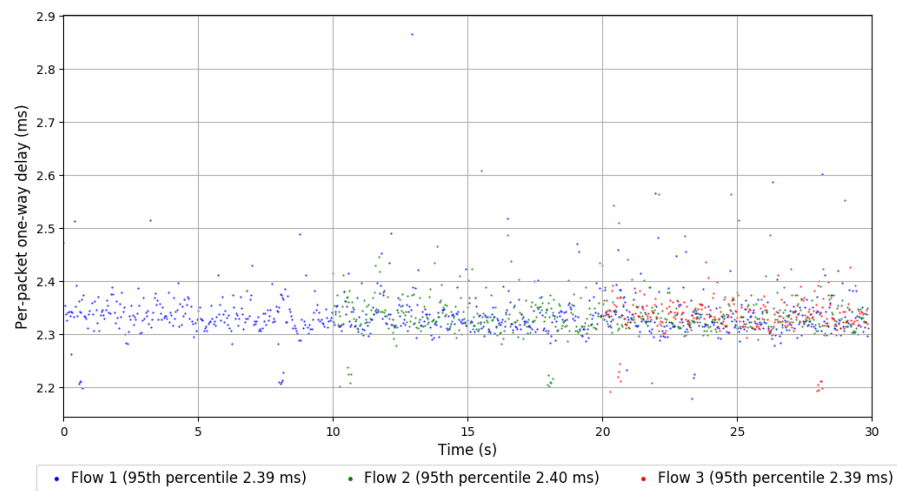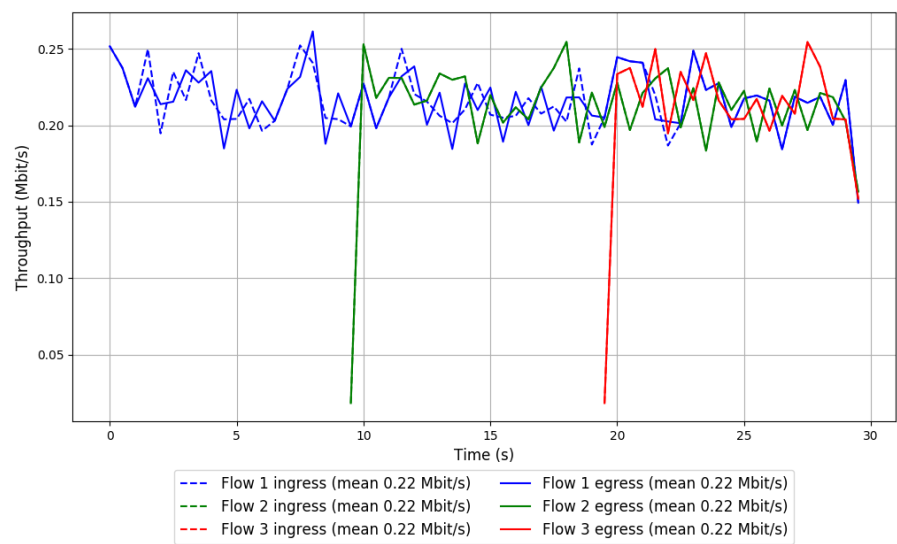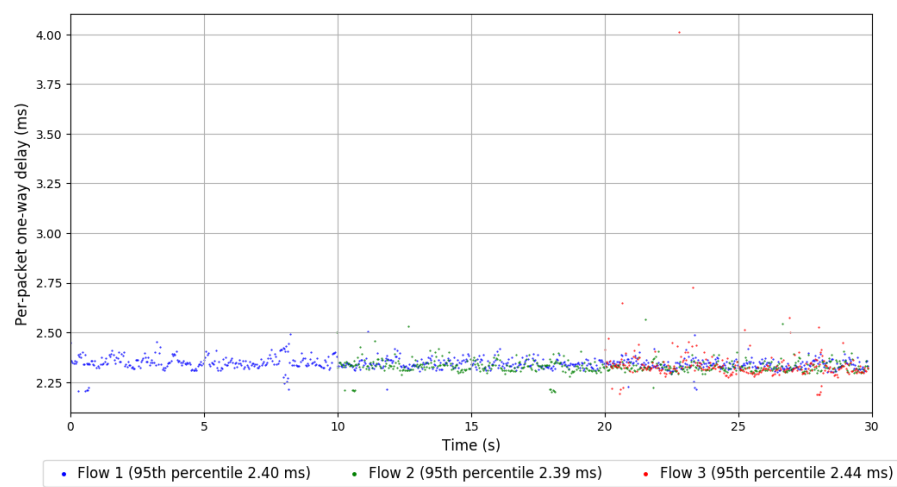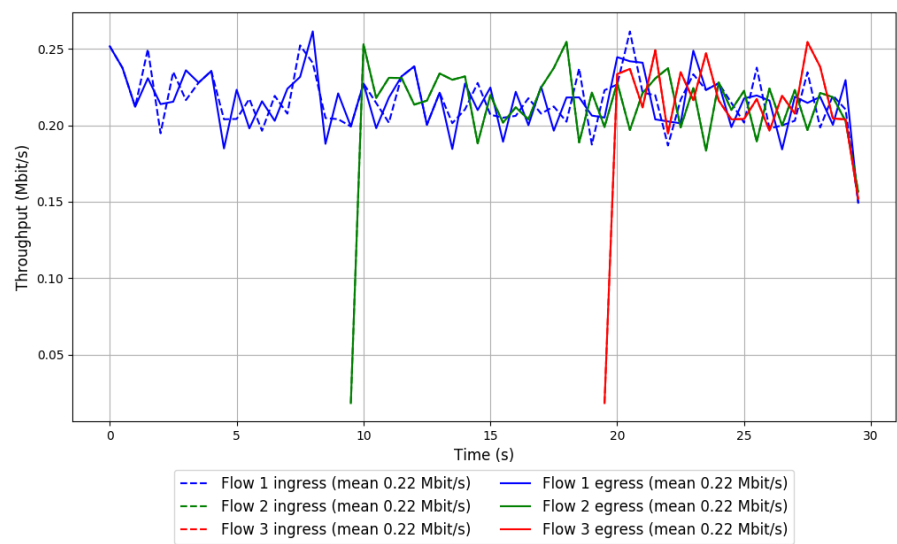
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-01-17 00:01:17
End at: 2018-01-17 00:01:47
Local clock offset: 0.125 ms
Remote clock offset: -14.525 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 17.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.201 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.214 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.228 ms
Loss rate: 0.00%
```
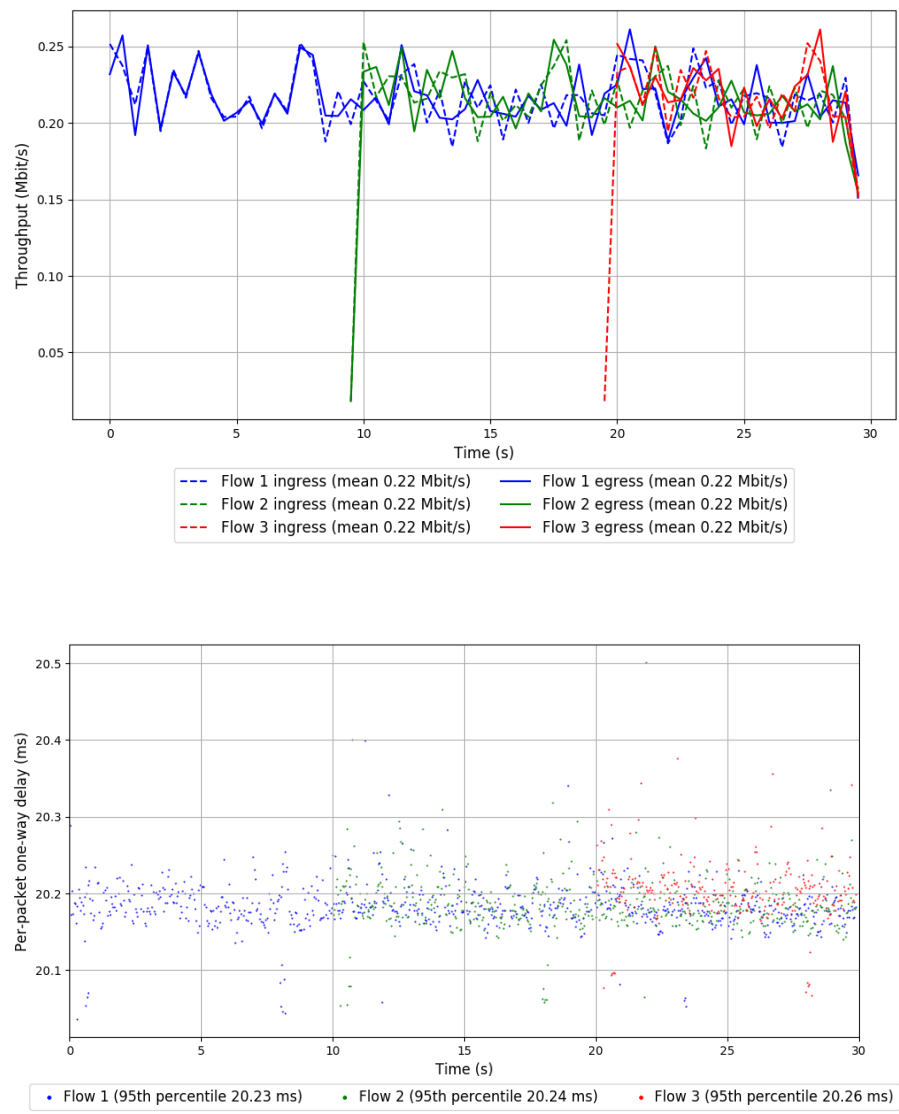
Run 4: Report of SCReAM — Data Link

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```
Run 5: Statistics of SCReAM

Start at: 2018-01-17 00:21:50
End at: 2018-01-17 00:22:20
Local clock offset: 0.201 ms
Remote clock offset: 0.434 ms

# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.429 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.432 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.440 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2018-01-17 00:42:23
End at: 2018-01-17 00:42:53
Local clock offset: 0.226 ms
Remote clock offset: 0.35 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.391 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.402 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.390 ms
Loss rate: 0.00%
```
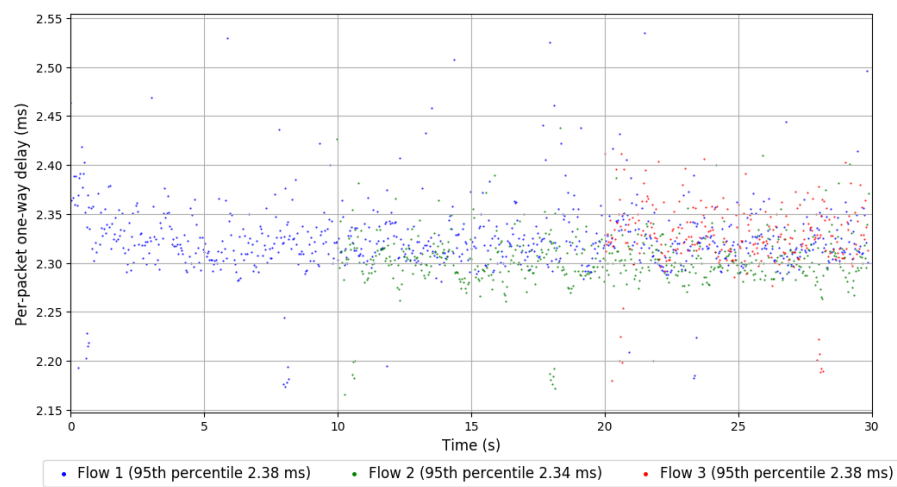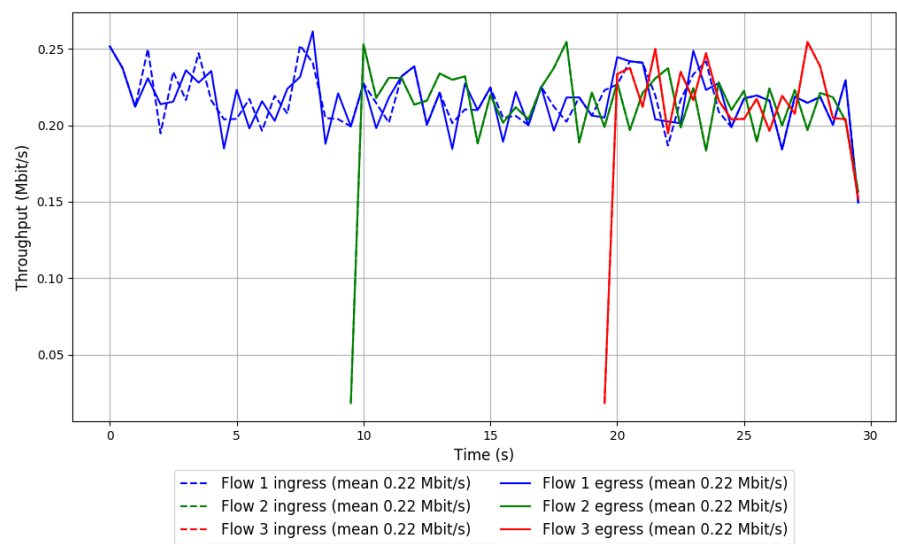
Run 6: Report of SCReAM — Data Link

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```
Run 7: Statistics of SCReAM

Start at: 2018-01-17 01:02:53
End at: 2018-01-17 01:03:23
Local clock offset: 0.308 ms
Remote clock offset: 0.195 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.398 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.398 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.387 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.435 ms
Loss rate: 0.00%
```
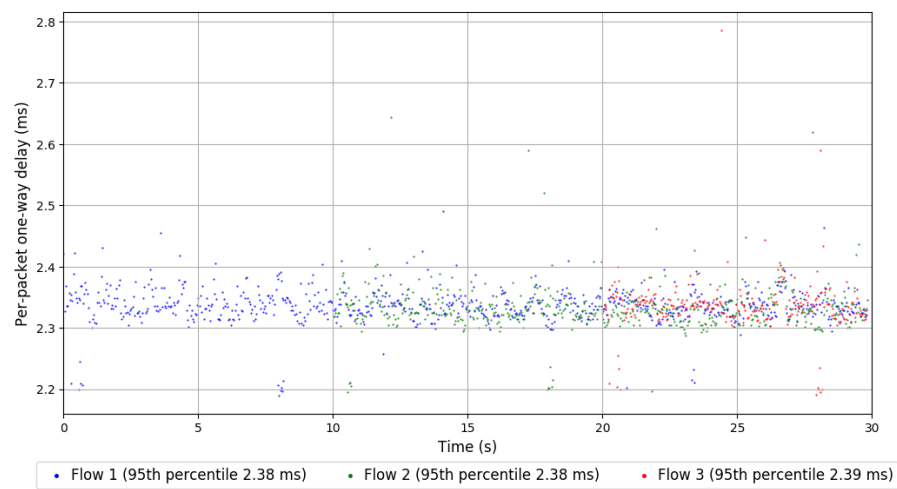
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2018-01-17 01:23:29
End at: 2018-01-17 01:23:59
Local clock offset: 0.313 ms
Remote clock offset: -17.764 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 20.239 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.228 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.244 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.261 ms
Loss rate: 0.00%
```
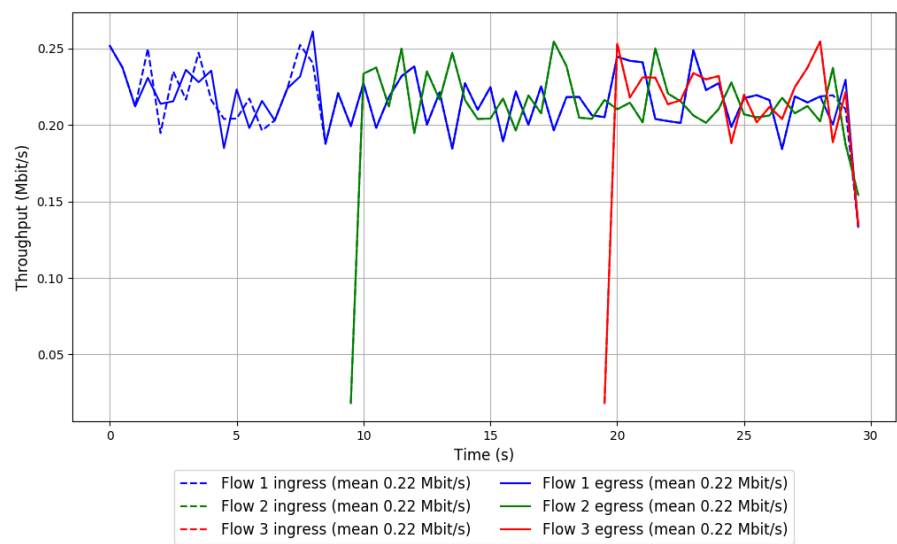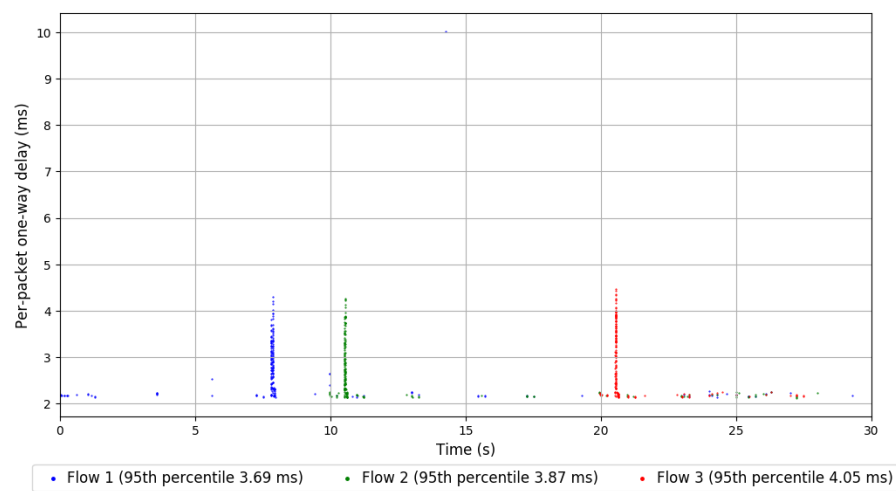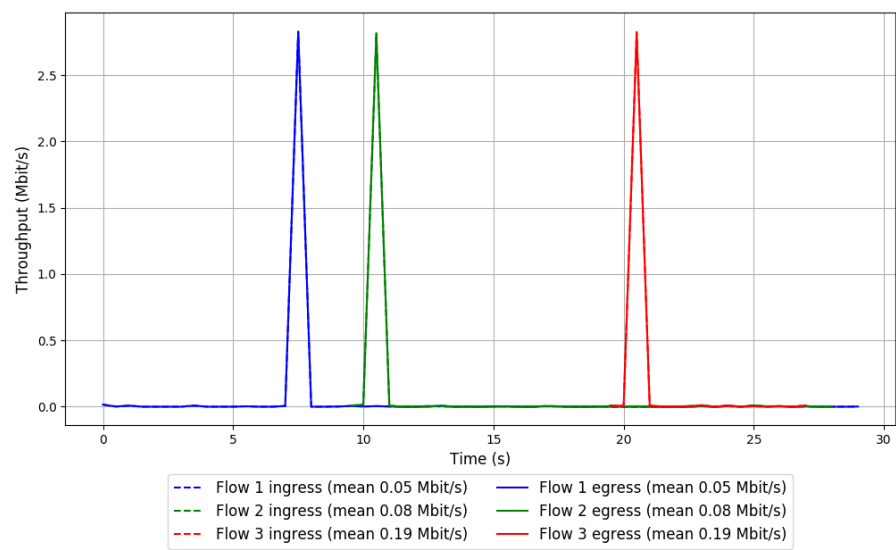
Run 8: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 20.23 ms)   Flow 2 (95th percentile 20.24 ms)   Flow 3 (95th percentile 20.26 ms)

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```
Run 9: Statistics of SCReAM

Start at: 2018-01-17 01:44:01
End at: 2018-01-17 01:44:31
Local clock offset: 0.415 ms
Remote clock offset: 0.096 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.376 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.343 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.380 ms
Loss rate: 0.00%
```
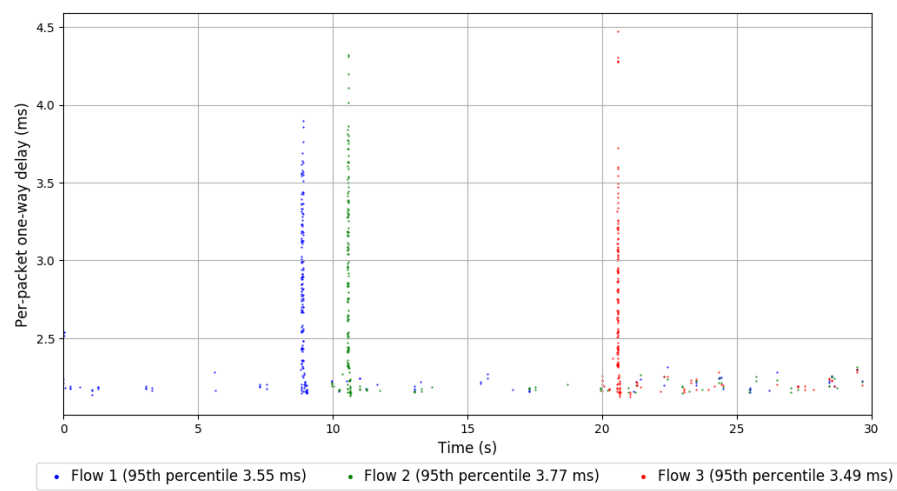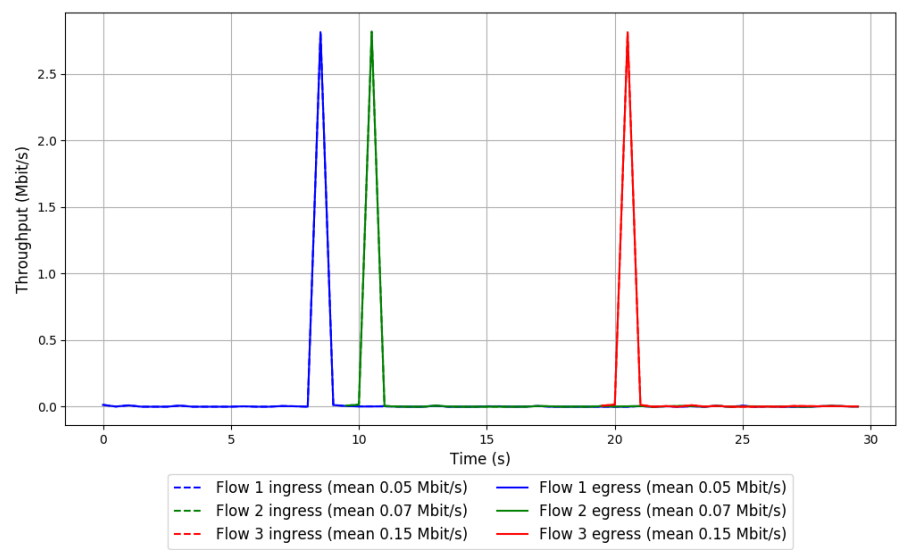
Run 9: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 2.38 ms) Flow 2 (95th percentile 2.34 ms) Flow 3 (95th percentile 2.38 ms)

121

```
Run 10: Statistics of SCReAM

Start at: 2018-01-17 02:04:34
End at: 2018-01-17 02:05:04
Local clock offset: 0.441 ms
Remote clock offset: 0.036 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.377 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.383 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.386 ms
Loss rate: 0.00%
```
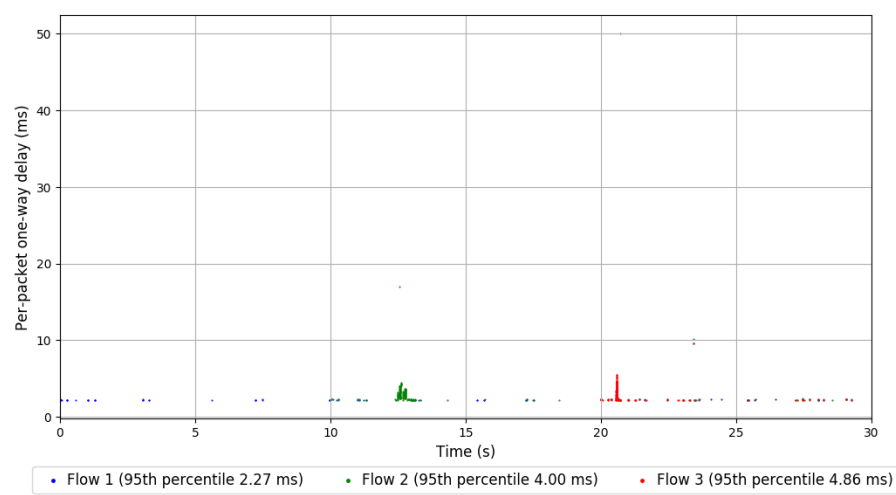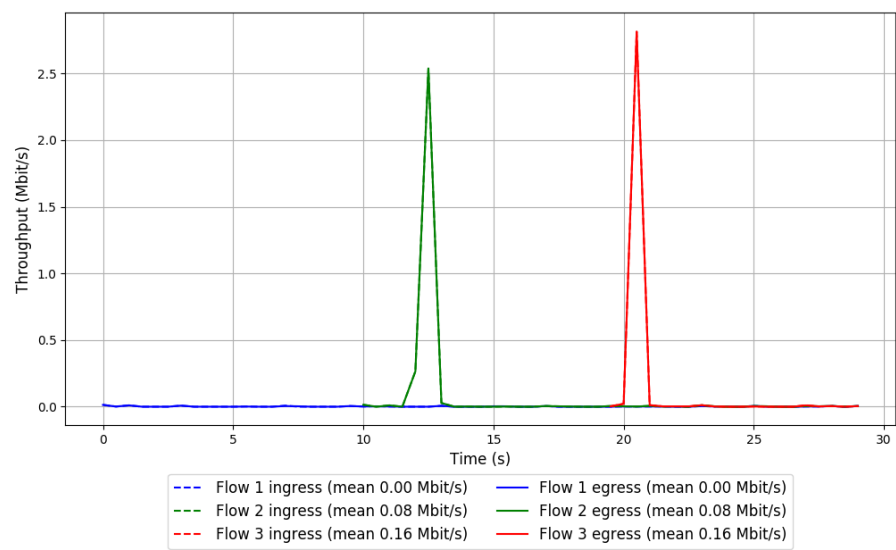
Run 10: Report of SCReAM — Data Link

123

```
Run 1: Statistics of WebRTC media

Start at: 2018-01-16 23:03:00
End at: 2018-01-16 23:03:30
Local clock offset: -0.063 ms
Remote clock offset: -0.465 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.917 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.691 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3.870 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 4.055 ms
Loss rate: 0.00%
```
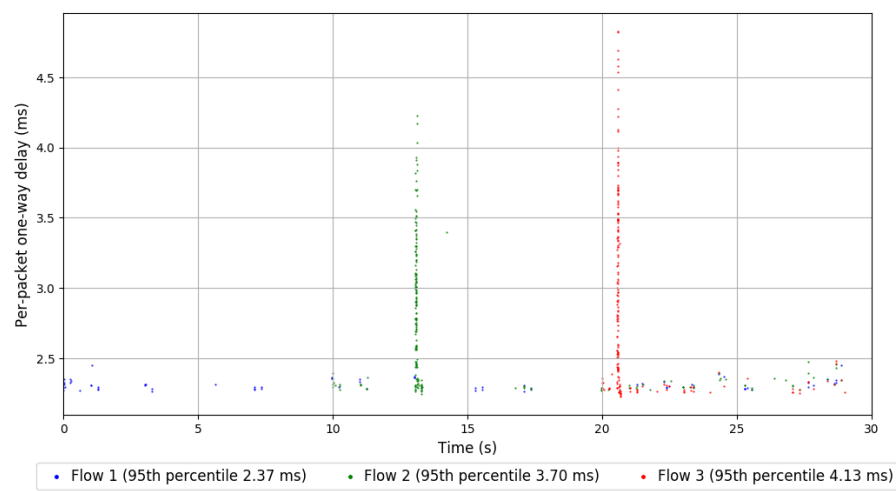
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-01-16 23:23:34
End at: 2018-01-16 23:24:04
Local clock offset: 0.014 ms
Remote clock offset: -0.155 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.607 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.550 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3.766 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.494 ms
Loss rate: 0.00%
```
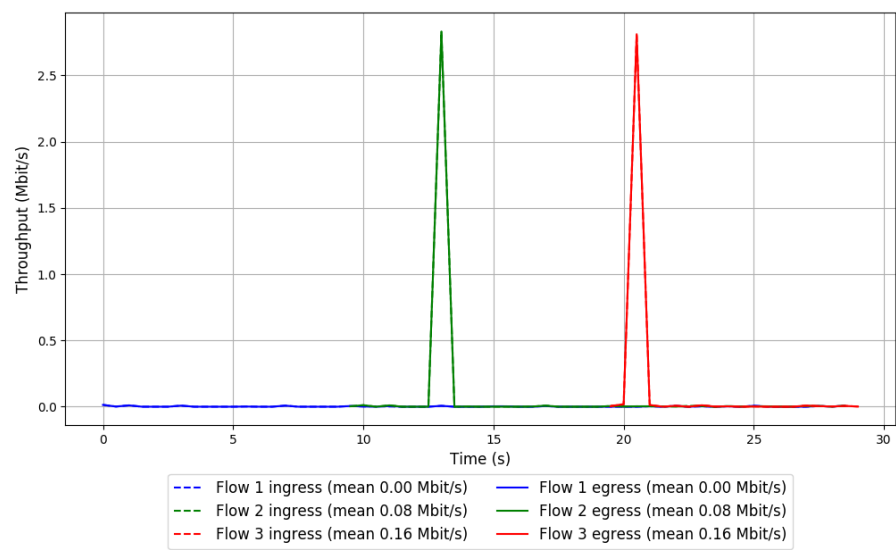
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-01-16 23:44:08
End at: 2018-01-16 23:44:38
Local clock offset: 0.062 ms
Remote clock offset: 0.133 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 4.467 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.265 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 4.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 4.857 ms
Loss rate: 0.00%
```
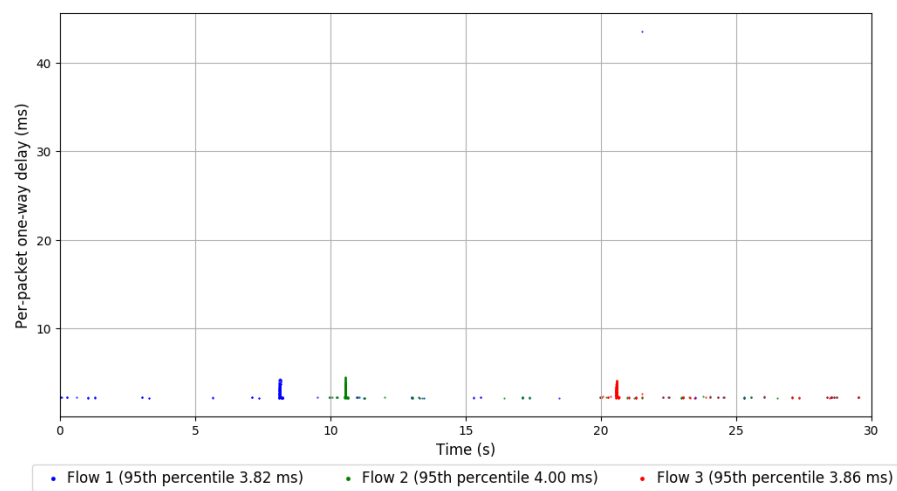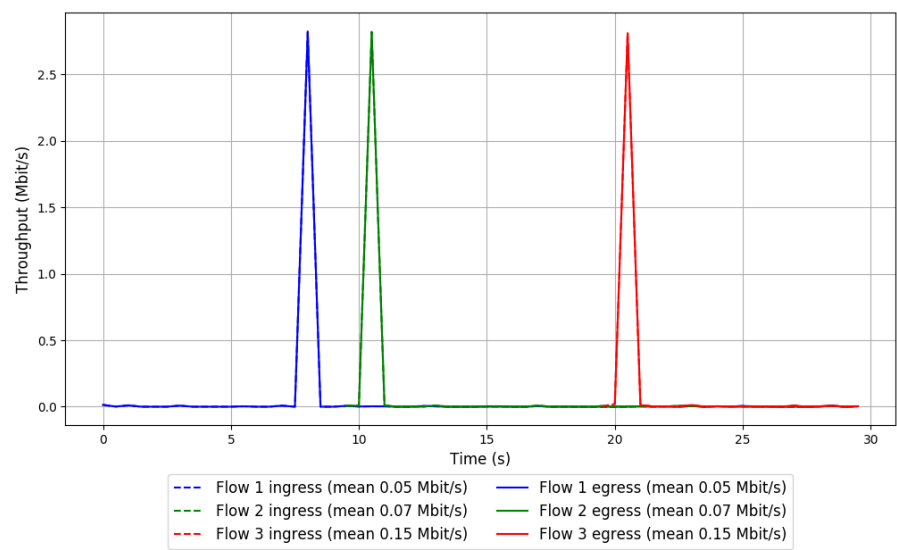
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-01-17 00:04:37
End at: 2018-01-17 00:05:07
Local clock offset: 0.14 ms
Remote clock offset: 0.247 ms

# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 3.874 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.370 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3.701 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 4.128 ms
Loss rate: 0.00%
```
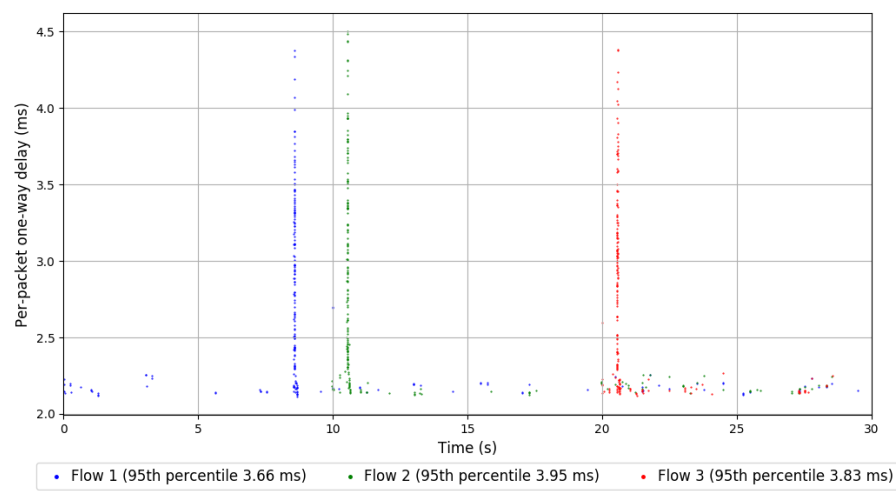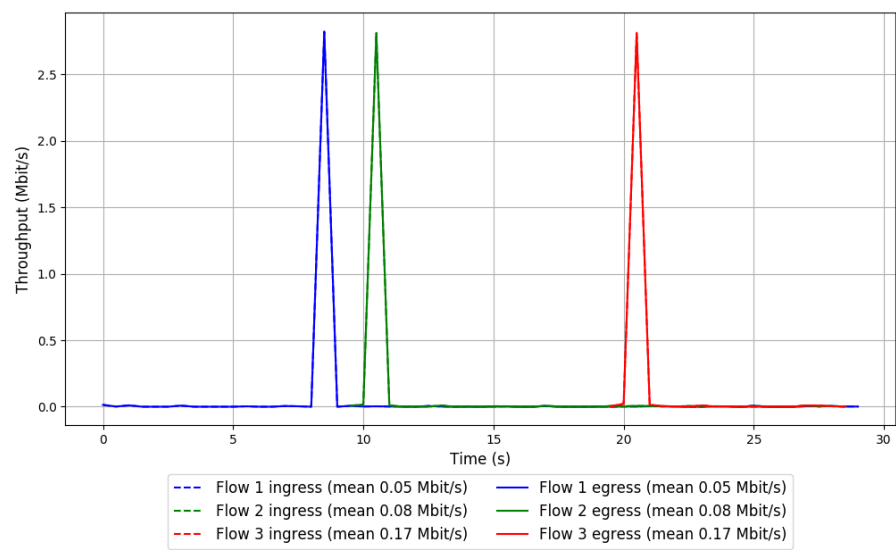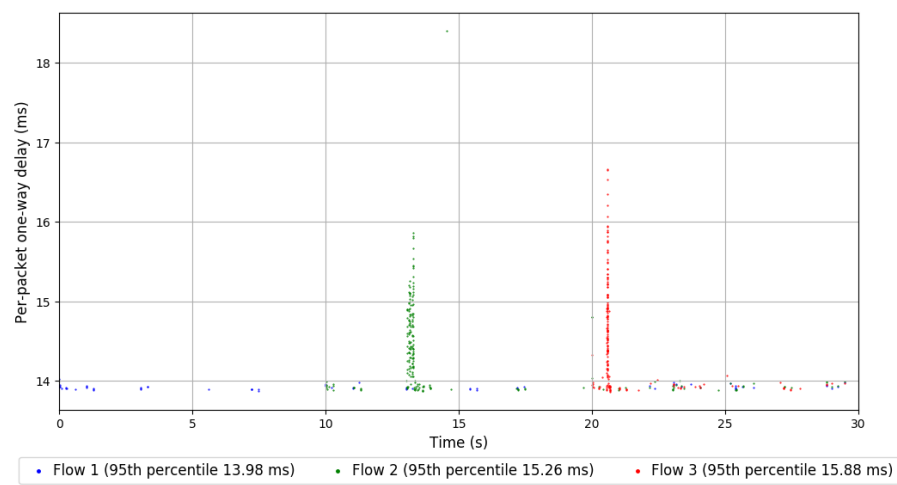
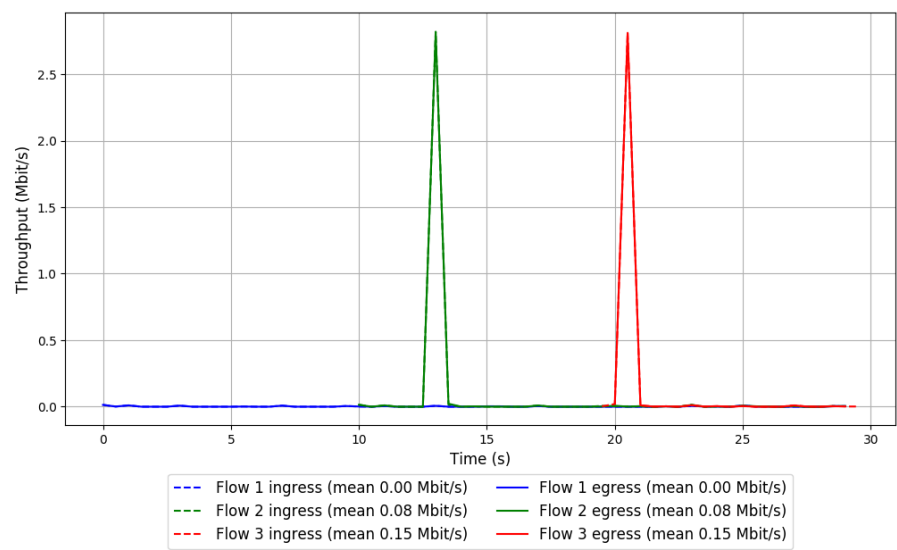Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-01-17 00:25:10
End at: 2018-01-17 00:25:40
Local clock offset: 0.202 ms
Remote clock offset: 0.462 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.926 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.822 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3.999 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.857 ms
Loss rate: 0.05%
```

Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-01-17 00:45:43
End at: 2018-01-17 00:46:13
Local clock offset: 0.181 ms
Remote clock offset: 0.318 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3.946 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 3.829 ms
Loss rate: 0.00%
```
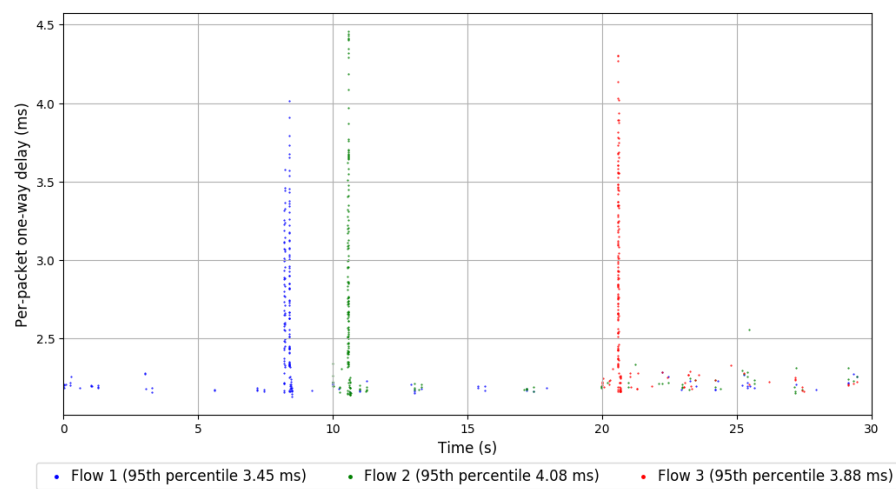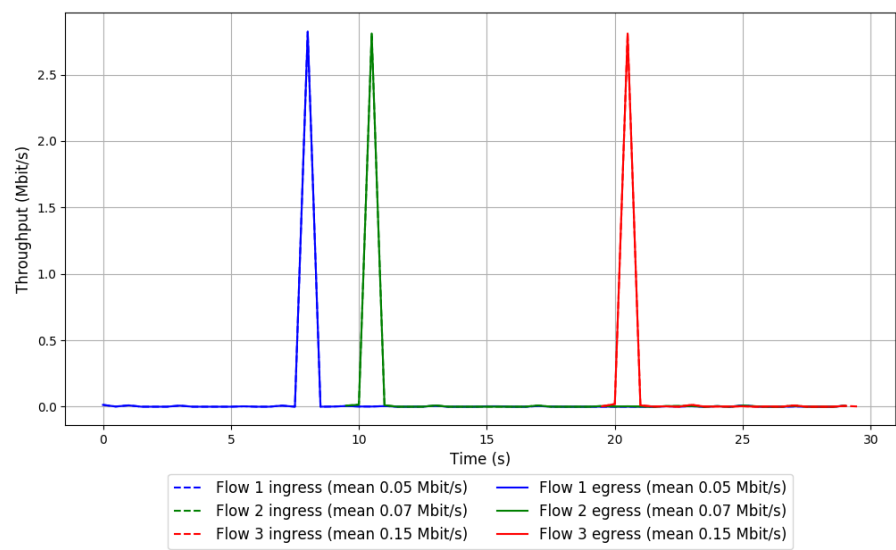
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-01-17 01:06:12
End at: 2018-01-17 01:06:43
Local clock offset: 0.263 ms
Remote clock offset: -11.593 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 15.539 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 13.978 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 15.261 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 15.877 ms
Loss rate: 0.05%
```
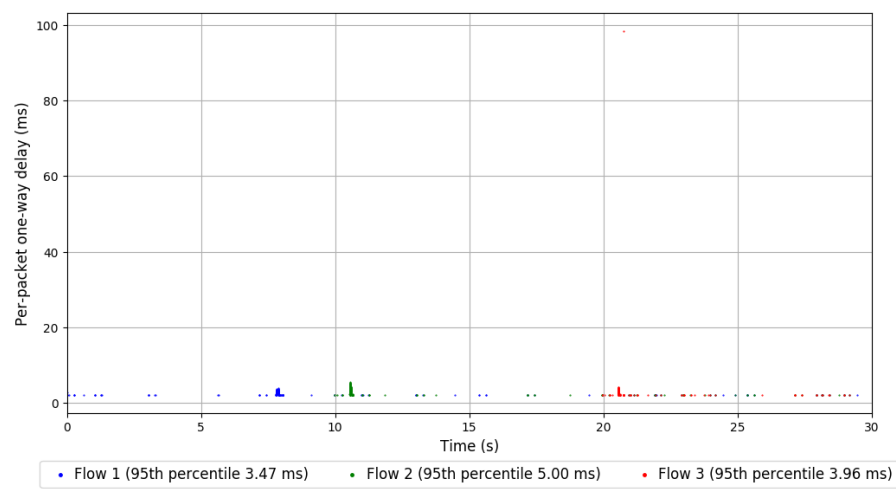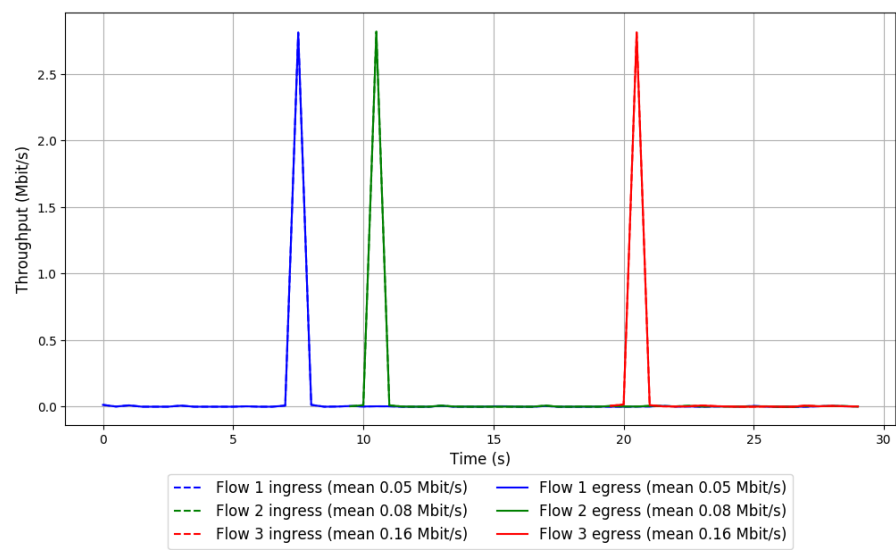
Run 7: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 0.08 Mbit/s) — Flow 2 egress (mean 0.08 Mbit/s)
Flow 3 ingress (mean 0.15 Mbit/s) — Flow 3 egress (mean 0.15 Mbit/s)

Flow 1 (95th percentile 13.98 ms) • Flow 2 (95th percentile 15.26 ms) • Flow 3 (95th percentile 15.88 ms)

```
Run 8: Statistics of WebRTC media

Start at: 2018-01-17 01:26:49
End at: 2018-01-17 01:27:19
Local clock offset: 0.378 ms
Remote clock offset: 0.156 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.758 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.446 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 4.085 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.875 ms
Loss rate: 0.05%
```
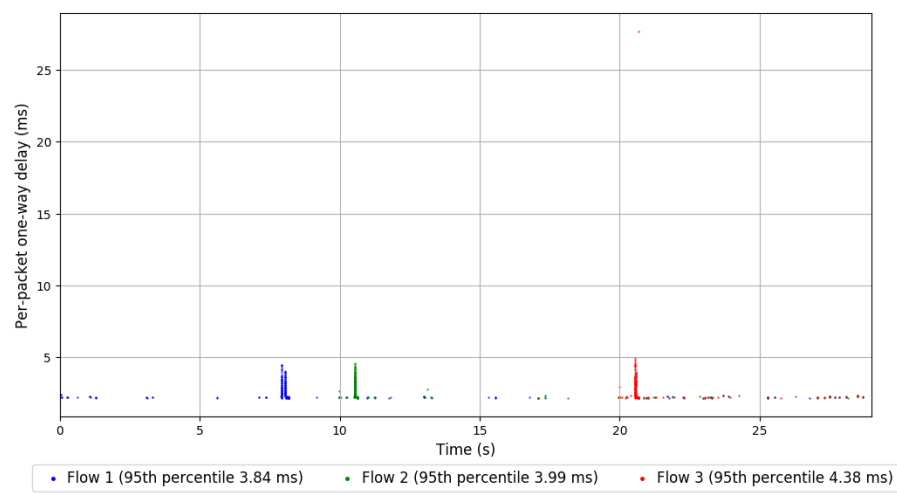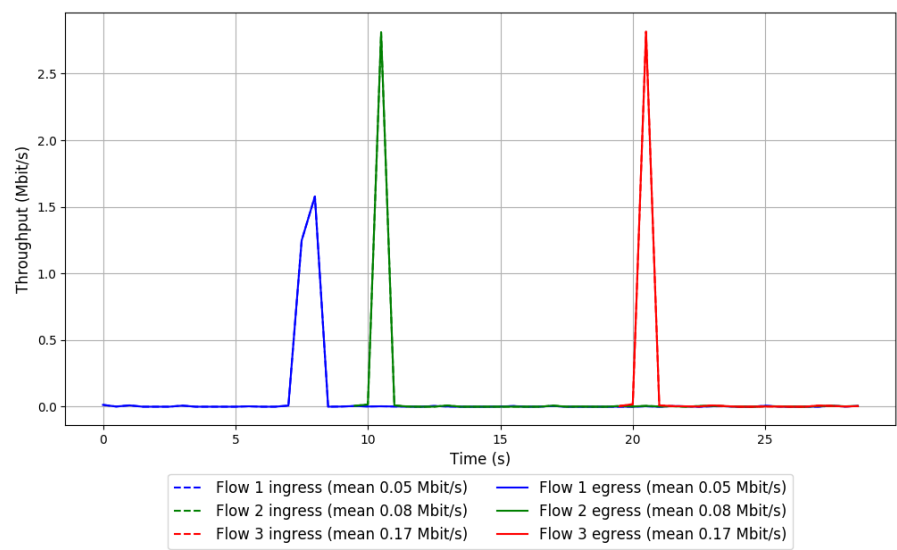
Run 8: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.05 Mbit/s)   Flow 1 egress (mean 0.05 Mbit/s)
Flow 2 ingress (mean 0.07 Mbit/s)   Flow 2 egress (mean 0.07 Mbit/s)
Flow 3 ingress (mean 0.15 Mbit/s)   Flow 3 egress (mean 0.15 Mbit/s)

Flow 1 (95th percentile 3.45 ms)   Flow 2 (95th percentile 4.08 ms)   Flow 3 (95th percentile 3.88 ms)

```
Run 9: Statistics of WebRTC media

Start at: 2018-01-17 01:47:21
End at: 2018-01-17 01:47:51
Local clock offset: 0.408 ms
Remote clock offset: 0.08 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 4.355 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.474 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 5.002 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 3.962 ms
Loss rate: 0.00%
```
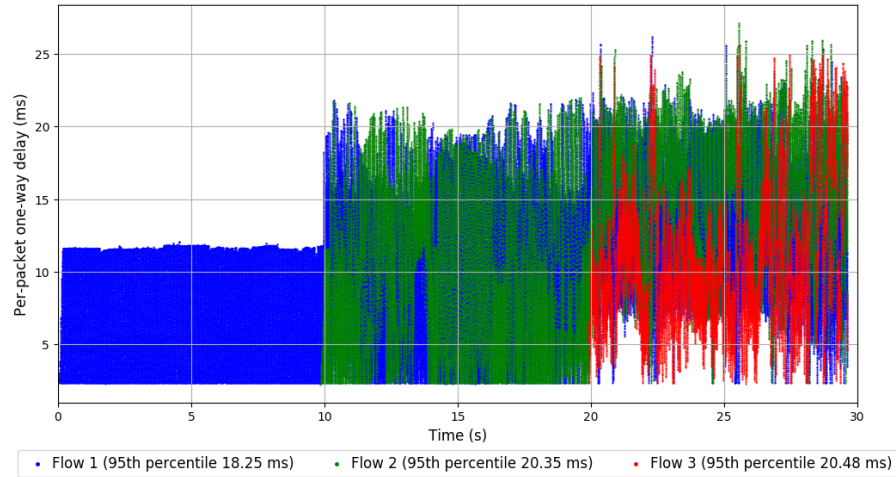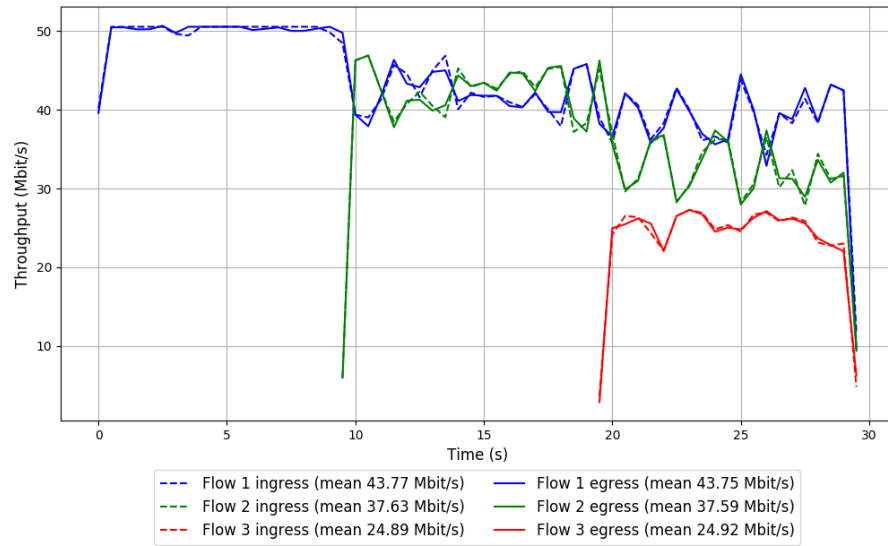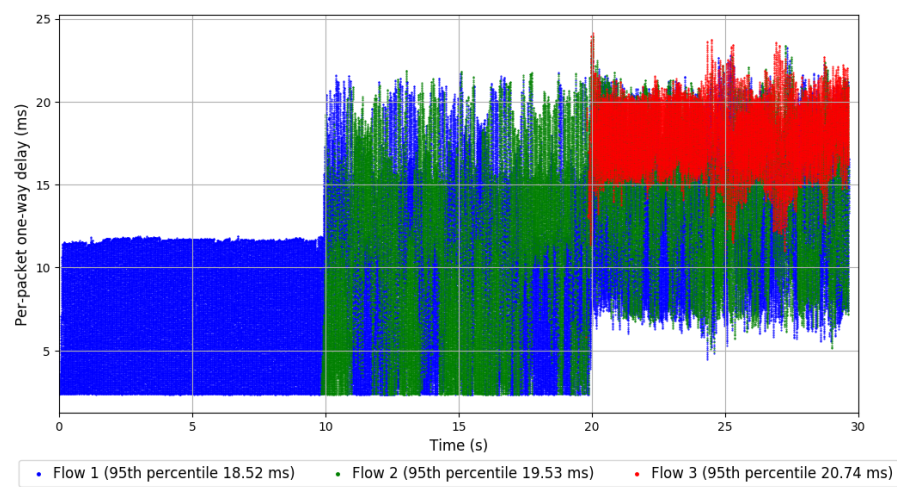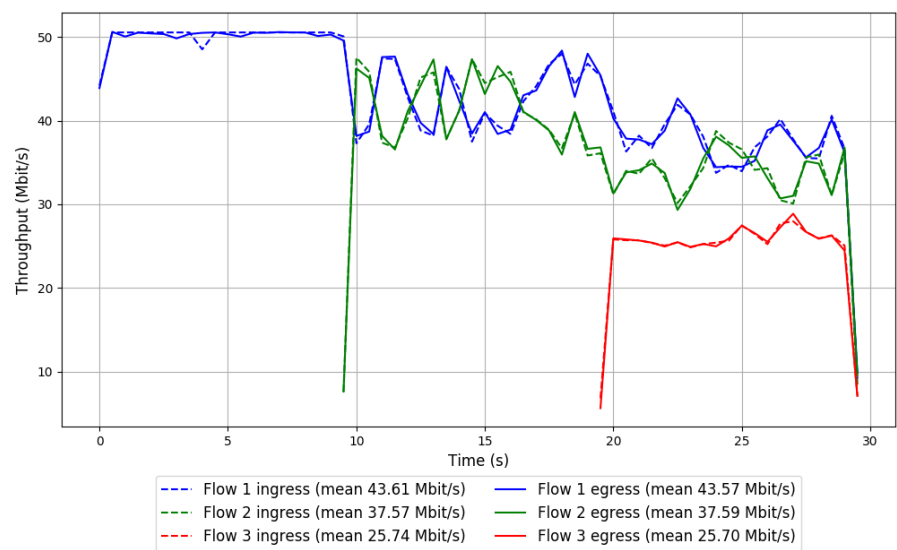
Run 9: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.05 Mbit/s) --- Flow 1 egress (mean 0.05 Mbit/s)
Flow 2 ingress (mean 0.08 Mbit/s) --- Flow 2 egress (mean 0.08 Mbit/s)
Flow 3 ingress (mean 0.16 Mbit/s) --- Flow 3 egress (mean 0.16 Mbit/s)

Flow 1 (95th percentile 3.47 ms)   Flow 2 (95th percentile 5.00 ms)   Flow 3 (95th percentile 3.96 ms)

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```
Run 10: Statistics of WebRTC media

Start at: 2018-01-17 02:07:54
End at: 2018-01-17 02:08:24
Local clock offset: 0.437 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2018-01-17 05:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.992 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.837 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3.992 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 4.379 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2018-01-16 22:58:34
End at: 2018-01-16 22:59:04
Local clock offset: -0.024 ms
Remote clock offset: -0.452 ms


# Below is generated by plot.py at 2018-01-17 05:55:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.07 Mbit/s
95th percentile per-packet one-way delay: 19.436 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 18.245 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 20.353 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 24.92 Mbit/s
95th percentile per-packet one-way delay: 20.479 ms
Loss rate: 0.00%
```
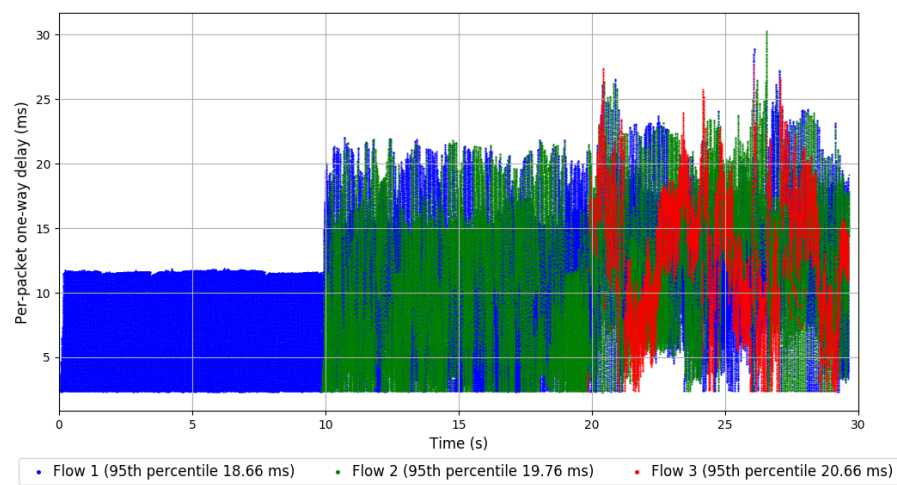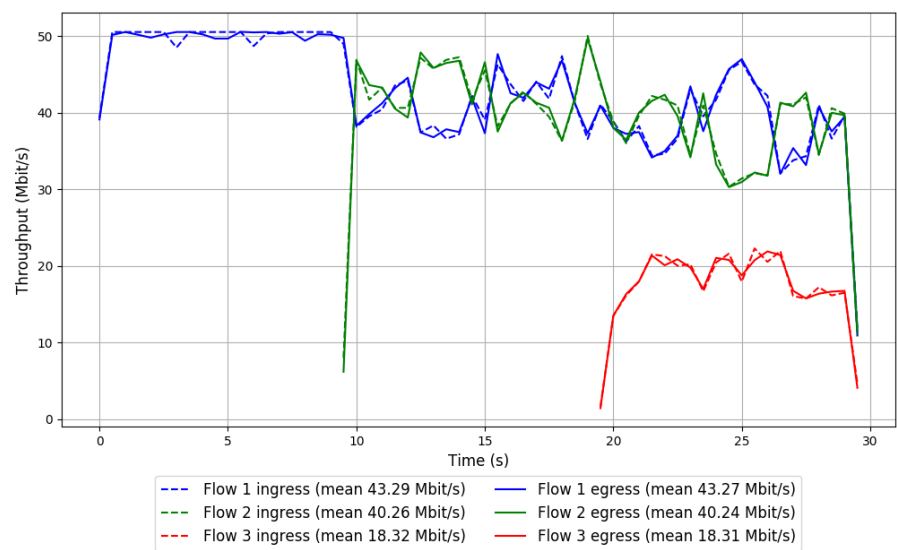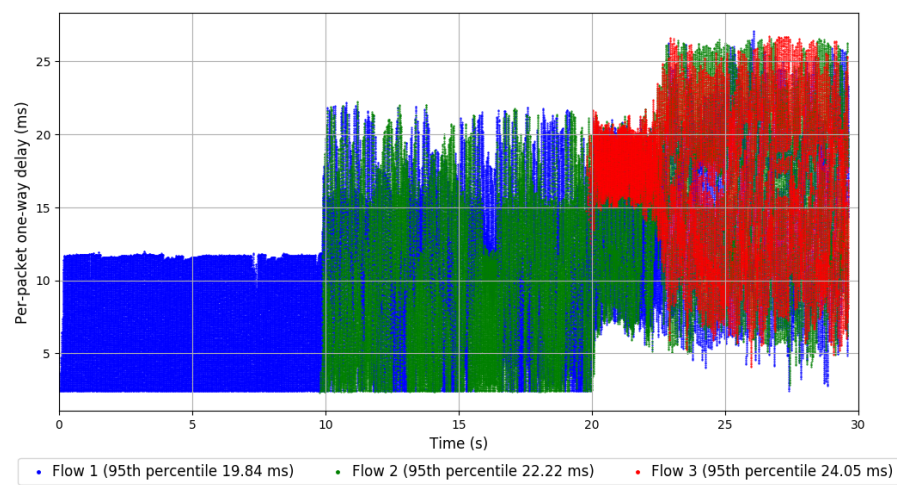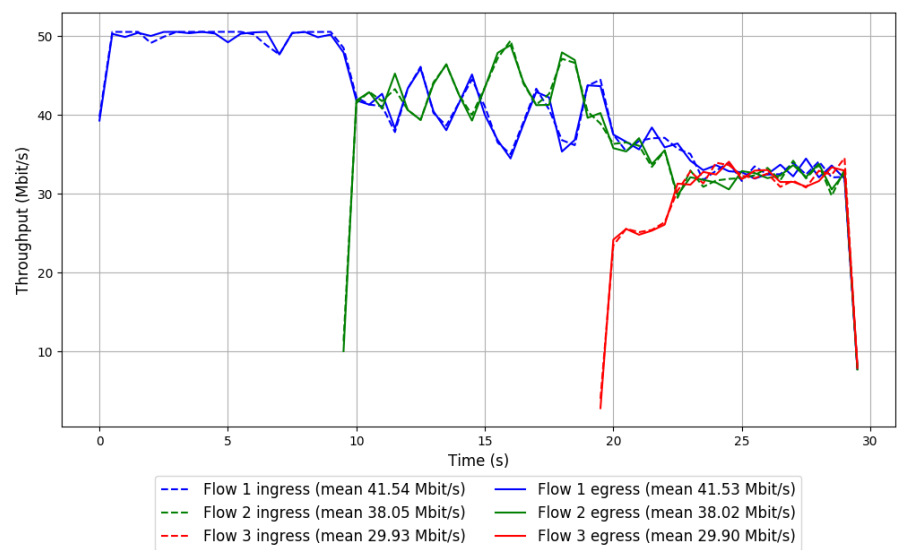
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 43.77 Mbit/s)   — Flow 1 egress (mean 43.75 Mbit/s)
Flow 2 ingress (mean 37.63 Mbit/s)   — Flow 2 egress (mean 37.59 Mbit/s)
Flow 3 ingress (mean 24.89 Mbit/s)   — Flow 3 egress (mean 24.92 Mbit/s)

• Flow 1 (95th percentile 18.25 ms)   • Flow 2 (95th percentile 20.35 ms)   • Flow 3 (95th percentile 20.48 ms)

```
Run 2: Statistics of Sprout

Start at: 2018-01-16 23:19:07
End at: 2018-01-16 23:19:37
Local clock offset: 0.022 ms
Remote clock offset: -0.229 ms


# Below is generated by plot.py at 2018-01-17 05:55:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.26 Mbit/s
95th percentile per-packet one-way delay: 19.594 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 43.57 Mbit/s
95th percentile per-packet one-way delay: 18.516 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 19.531 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 25.70 Mbit/s
95th percentile per-packet one-way delay: 20.743 ms
Loss rate: 0.20%
```
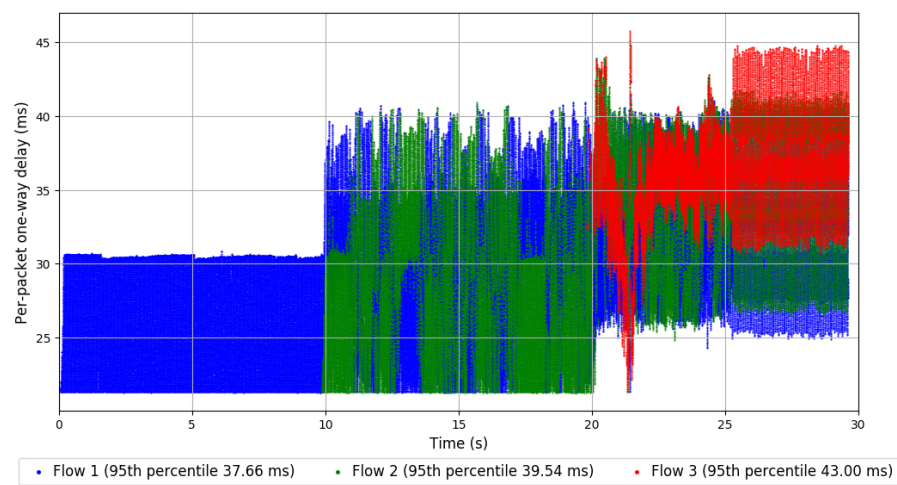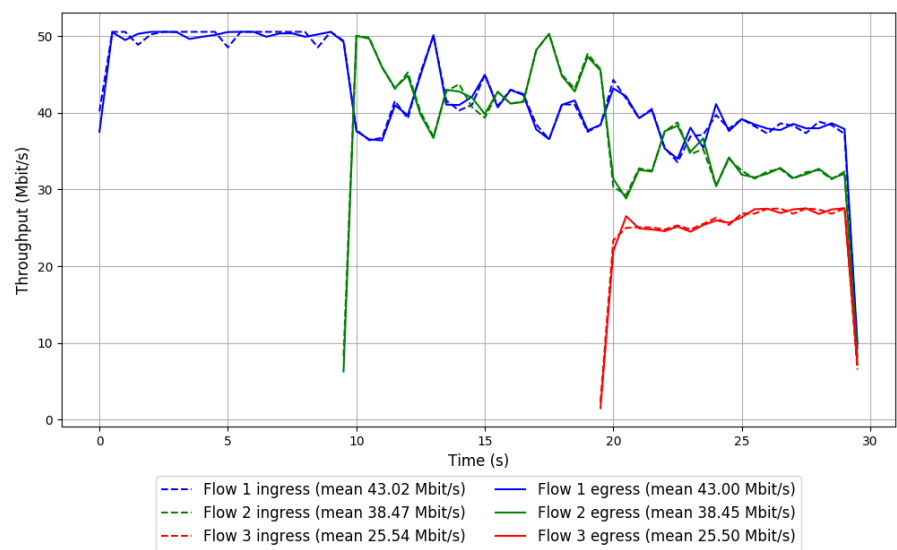
Run 2: Report of Sprout — Data Link

Flow 1 ingress (mean 43.61 Mbit/s) ---- Flow 1 egress (mean 43.57 Mbit/s) ——
Flow 2 ingress (mean 37.57 Mbit/s) ---- Flow 2 egress (mean 37.59 Mbit/s) ——
Flow 3 ingress (mean 25.74 Mbit/s) ---- Flow 3 egress (mean 25.70 Mbit/s) ——

Flow 1 (95th percentile 18.52 ms)   Flow 2 (95th percentile 19.53 ms)   Flow 3 (95th percentile 20.74 ms)

```
Run 3: Statistics of Sprout

Start at: 2018-01-16 23:39:42
End at: 2018-01-16 23:40:12
Local clock offset: 0.051 ms
Remote clock offset: 0.075 ms


# Below is generated by plot.py at 2018-01-17 05:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.22 Mbit/s
95th percentile per-packet one-way delay: 19.342 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 43.27 Mbit/s
95th percentile per-packet one-way delay: 18.661 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 19.761 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 18.31 Mbit/s
95th percentile per-packet one-way delay: 20.665 ms
Loss rate: 0.18%
```

Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-01-17 00:00:11
End at: 2018-01-17 00:00:41
Local clock offset: 0.124 ms
Remote clock offset: 0.239 ms


# Below is generated by plot.py at 2018-01-17 05:55:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.91 Mbit/s
95th percentile per-packet one-way delay: 21.691 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 41.53 Mbit/s
95th percentile per-packet one-way delay: 19.843 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 38.02 Mbit/s
95th percentile per-packet one-way delay: 22.218 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 24.045 ms
Loss rate: 0.26%
```
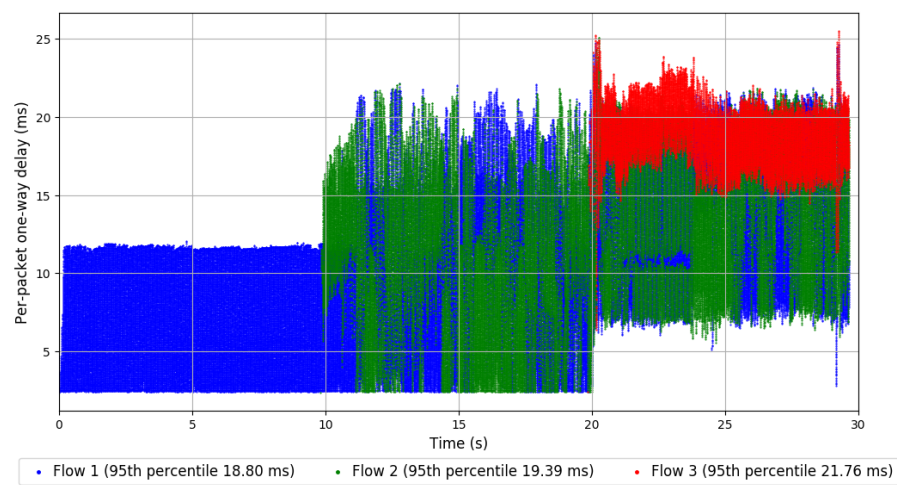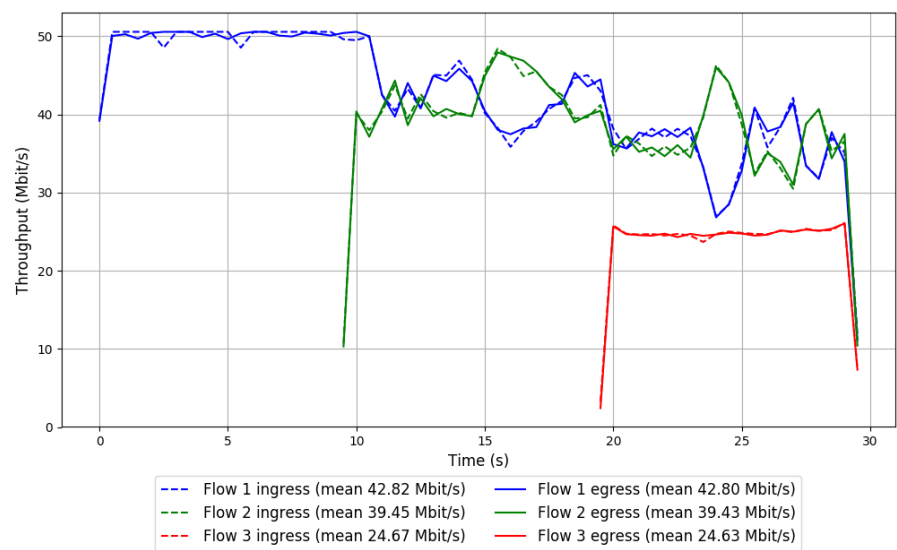
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 41.54 Mbit/s) --- Flow 1 egress (mean 41.53 Mbit/s)
Flow 2 ingress (mean 38.05 Mbit/s) --- Flow 2 egress (mean 38.02 Mbit/s)
Flow 3 ingress (mean 29.93 Mbit/s) --- Flow 3 egress (mean 29.90 Mbit/s)

Flow 1 (95th percentile 19.84 ms)   Flow 2 (95th percentile 22.22 ms)   Flow 3 (95th percentile 24.05 ms)

```
Run 5: Statistics of Sprout

Start at: 2018-01-17 00:20:43
End at: 2018-01-17 00:21:13
Local clock offset: 0.181 ms
Remote clock offset: -18.511 ms


# Below is generated by plot.py at 2018-01-17 05:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.19 Mbit/s
95th percentile per-packet one-way delay: 39.266 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 43.00 Mbit/s
95th percentile per-packet one-way delay: 37.655 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 39.538 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 25.50 Mbit/s
95th percentile per-packet one-way delay: 42.997 ms
Loss rate: 0.26%
```
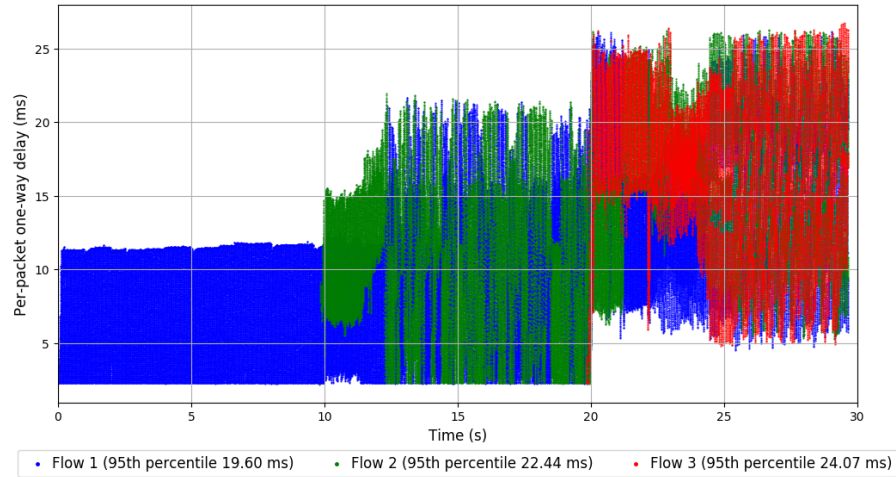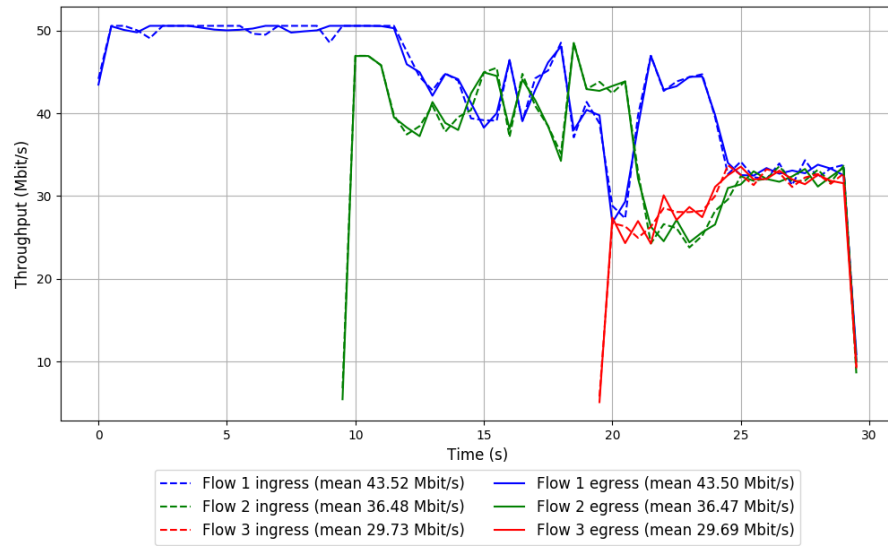
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2018-01-17 00:41:16
End at: 2018-01-17 00:41:46
Local clock offset: 0.224 ms
Remote clock offset: 0.282 ms


# Below is generated by plot.py at 2018-01-17 05:56:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.29 Mbit/s
95th percentile per-packet one-way delay: 19.950 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 42.80 Mbit/s
95th percentile per-packet one-way delay: 18.805 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 39.43 Mbit/s
95th percentile per-packet one-way delay: 19.394 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 24.63 Mbit/s
95th percentile per-packet one-way delay: 21.757 ms
Loss rate: 0.25%
```
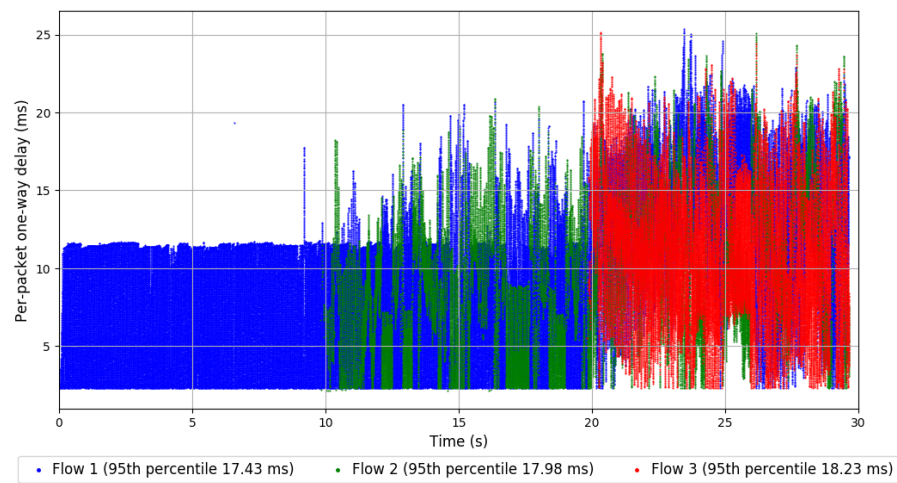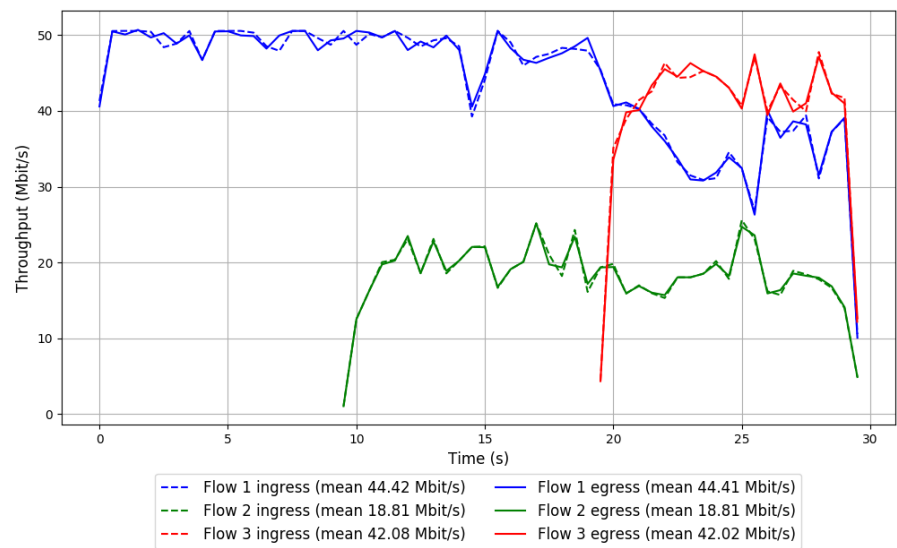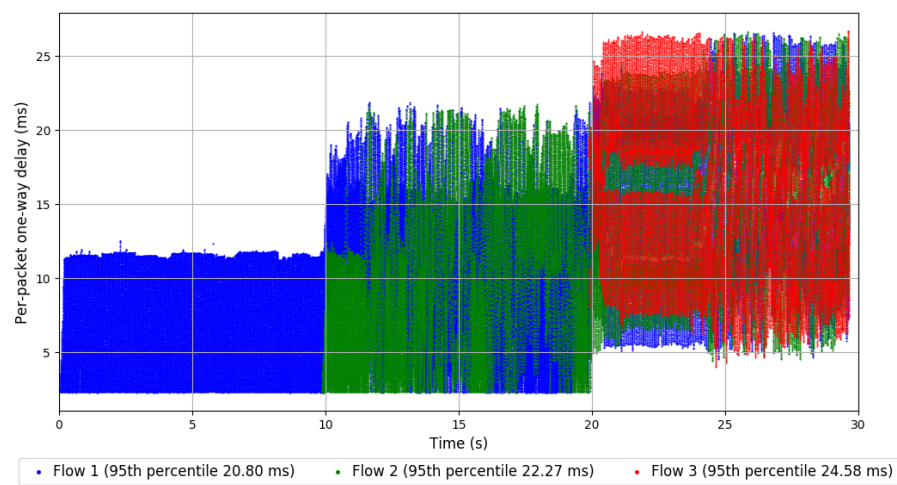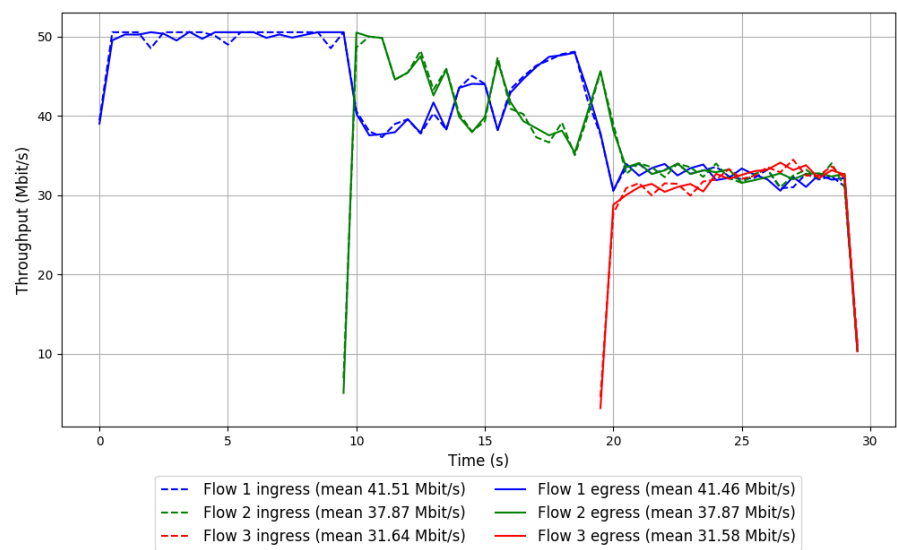
Run 6: Report of Sprout — Data Link

Throughput (Mbit/s) vs Time (s)

- - - Flow 1 ingress (mean 42.82 Mbit/s) —— Flow 1 egress (mean 42.80 Mbit/s)
- - - Flow 2 ingress (mean 39.45 Mbit/s) —— Flow 2 egress (mean 39.43 Mbit/s)
- - - Flow 3 ingress (mean 24.67 Mbit/s) —— Flow 3 egress (mean 24.63 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

- Flow 1 (95th percentile 18.80 ms)   • Flow 2 (95th percentile 19.39 ms)   • Flow 3 (95th percentile 21.76 ms)

```
Run 7: Statistics of Sprout

Start at: 2018-01-17 01:01:46
End at: 2018-01-17 01:02:16
Local clock offset: 0.244 ms
Remote clock offset: 0.215 ms


# Below is generated by plot.py at 2018-01-17 05:56:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.73 Mbit/s
95th percentile per-packet one-way delay: 22.024 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 43.50 Mbit/s
95th percentile per-packet one-way delay: 19.597 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 22.436 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 24.069 ms
Loss rate: 0.30%
```
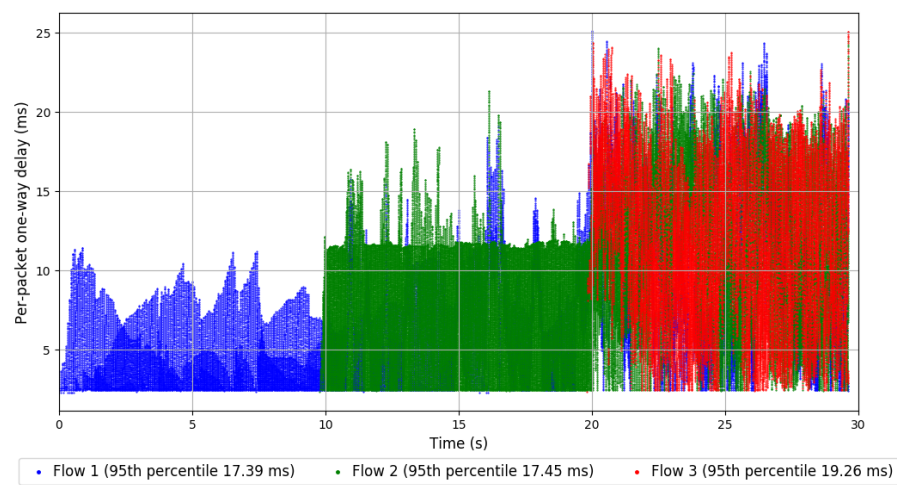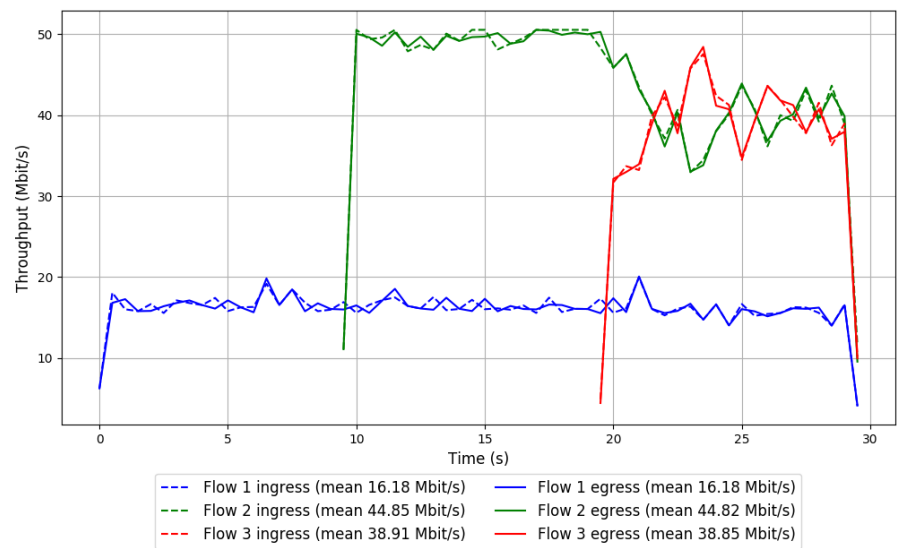
Run 7: Report of Sprout — Data Link

- - - - Flow 1 ingress (mean 43.52 Mbit/s)   ——— Flow 1 egress (mean 43.50 Mbit/s)
- - - - Flow 2 ingress (mean 36.48 Mbit/s)   ——— Flow 2 egress (mean 36.47 Mbit/s)
- - - - Flow 3 ingress (mean 29.73 Mbit/s)   ——— Flow 3 egress (mean 29.69 Mbit/s)

• Flow 1 (95th percentile 19.60 ms)   • Flow 2 (95th percentile 22.44 ms)   • Flow 3 (95th percentile 24.07 ms)

```
Run 8: Statistics of Sprout

Start at: 2018-01-17 01:22:23
End at: 2018-01-17 01:22:53
Local clock offset: 0.311 ms
Remote clock offset: 0.153 ms


# Below is generated by plot.py at 2018-01-17 05:56:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 17.714 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 44.41 Mbit/s
95th percentile per-packet one-way delay: 17.429 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 18.81 Mbit/s
95th percentile per-packet one-way delay: 17.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 18.234 ms
Loss rate: 0.12%
```
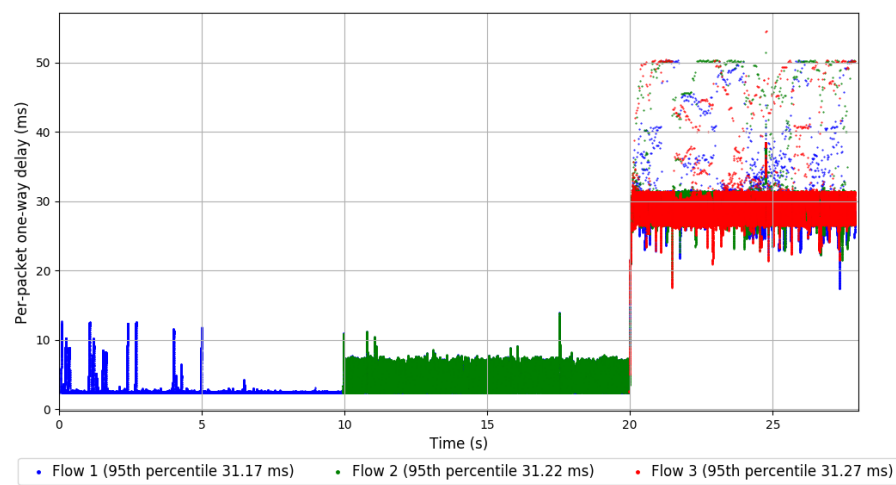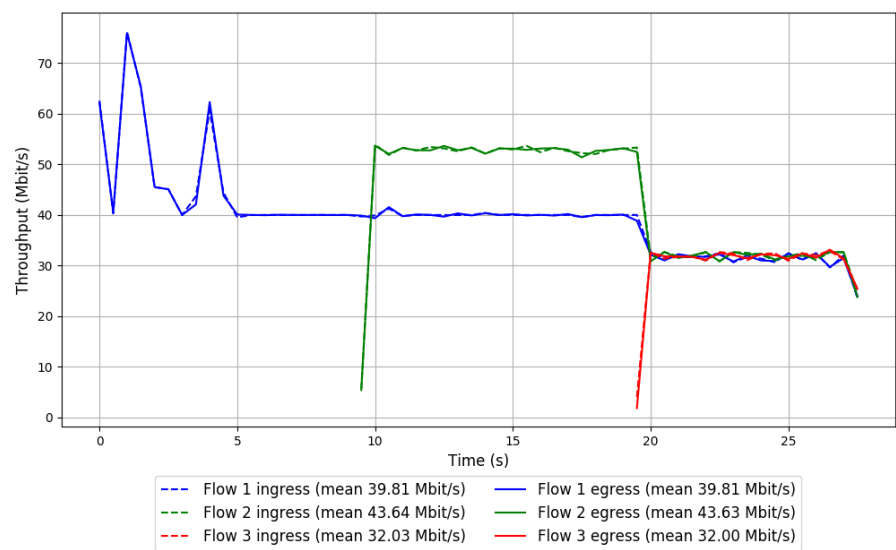
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2018-01-17 01:42:55
End at: 2018-01-17 01:43:25
Local clock offset: 0.348 ms
Remote clock offset: 0.062 ms


# Below is generated by plot.py at 2018-01-17 05:56:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.23 Mbit/s
95th percentile per-packet one-way delay: 22.313 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 41.46 Mbit/s
95th percentile per-packet one-way delay: 20.805 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.87 Mbit/s
95th percentile per-packet one-way delay: 22.272 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 24.579 ms
Loss rate: 0.24%
```
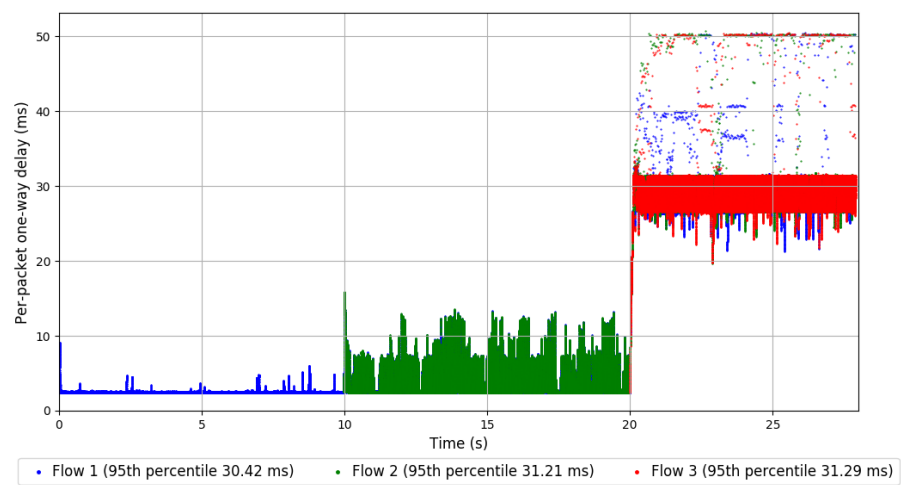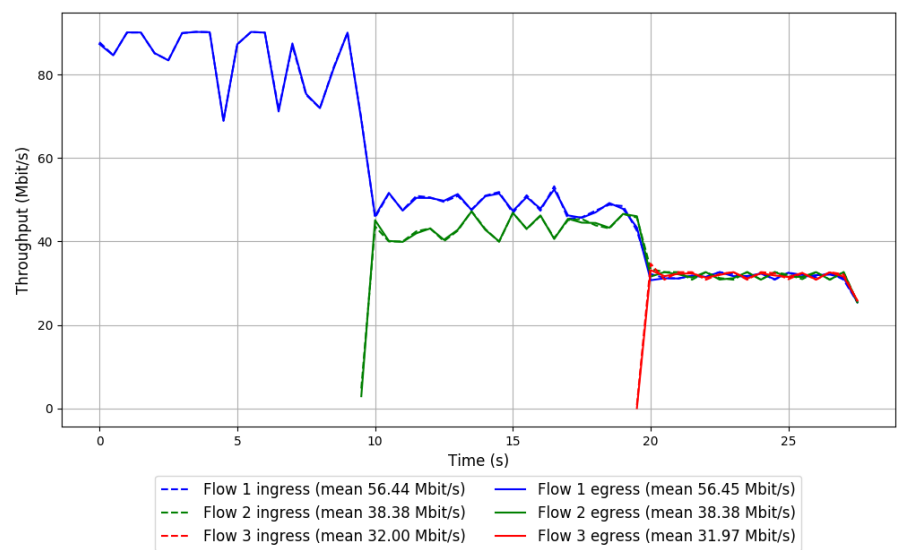
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-01-17 02:03:29
End at: 2018-01-17 02:03:59
Local clock offset: 0.434 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2018-01-17 05:56:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.08 Mbit/s
95th percentile per-packet one-way delay: 18.082 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 16.18 Mbit/s
95th percentile per-packet one-way delay: 17.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.82 Mbit/s
95th percentile per-packet one-way delay: 17.453 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 19.259 ms
Loss rate: 0.16%
```

Run 10: Report of Sprout — Data Link

- - - Flow 1 ingress (mean 16.18 Mbit/s) —— Flow 1 egress (mean 16.18 Mbit/s)
- - - Flow 2 ingress (mean 44.85 Mbit/s) —— Flow 2 egress (mean 44.82 Mbit/s)
- - - Flow 3 ingress (mean 38.91 Mbit/s) —— Flow 3 egress (mean 38.85 Mbit/s)

• Flow 1 (95th percentile 17.39 ms)   • Flow 2 (95th percentile 17.45 ms)   • Flow 3 (95th percentile 19.26 ms)

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```
Run 1: Statistics of TaoVA-100x

Start at: 2018-01-16 23:13:08
End at: 2018-01-16 23:13:38
Local clock offset: -0.012 ms
Remote clock offset: -0.396 ms


# Below is generated by plot.py at 2018-01-17 05:57:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 31.217 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 31.170 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 43.63 Mbit/s
95th percentile per-packet one-way delay: 31.219 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 31.275 ms
Loss rate: 0.36%
```
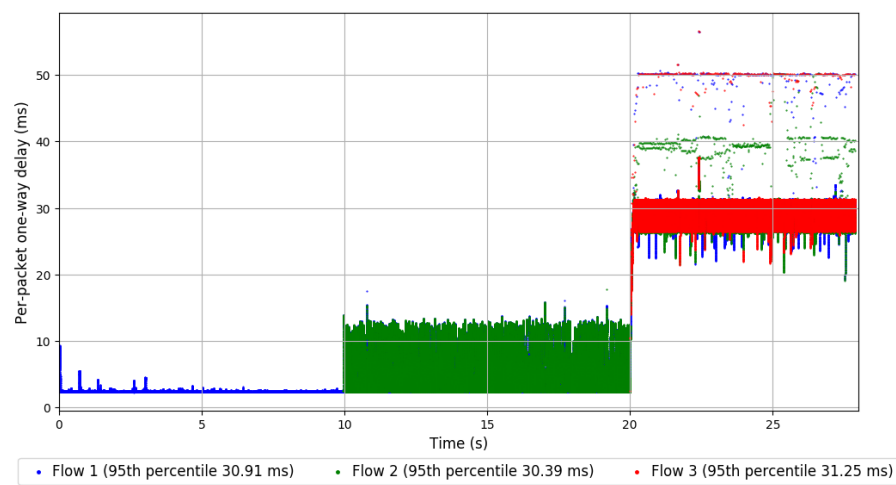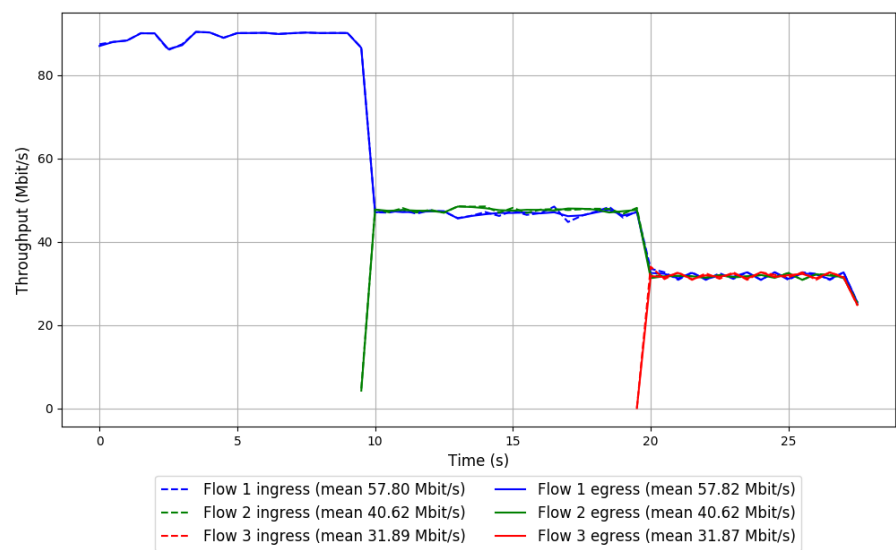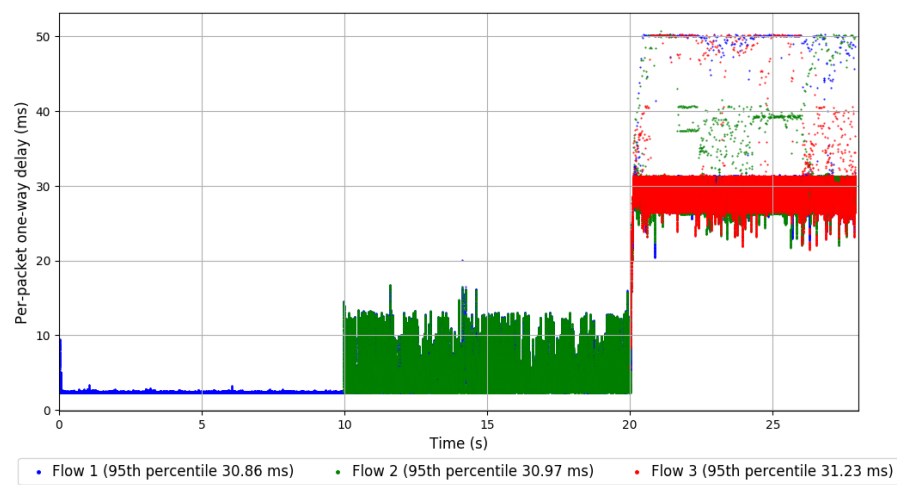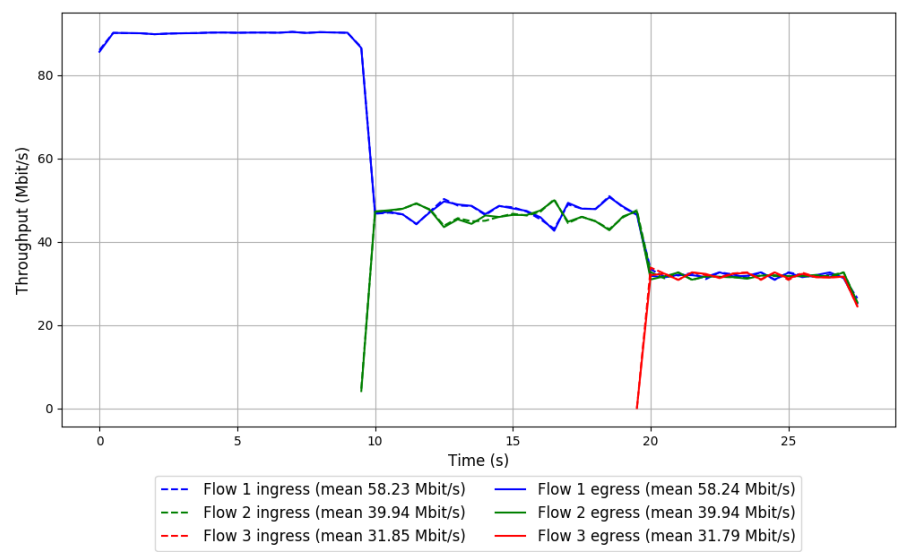
Run 1: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 39.81 Mbit/s)
- Flow 1 egress (mean 39.81 Mbit/s)
- Flow 2 ingress (mean 43.64 Mbit/s)
- Flow 2 egress (mean 43.63 Mbit/s)
- Flow 3 ingress (mean 32.03 Mbit/s)
- Flow 3 egress (mean 32.00 Mbit/s)

- Flow 1 (95th percentile 31.17 ms)
- Flow 2 (95th percentile 31.22 ms)
- Flow 3 (95th percentile 31.27 ms)

```
Run 2: Statistics of TaoVA-100x

Start at: 2018-01-16 23:33:43
End at: 2018-01-16 23:34:13
Local clock offset: 0.065 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2018-01-17 05:58:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.15 Mbit/s
95th percentile per-packet one-way delay: 31.181 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 30.416 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 38.38 Mbit/s
95th percentile per-packet one-way delay: 31.213 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 31.293 ms
Loss rate: 0.42%
```
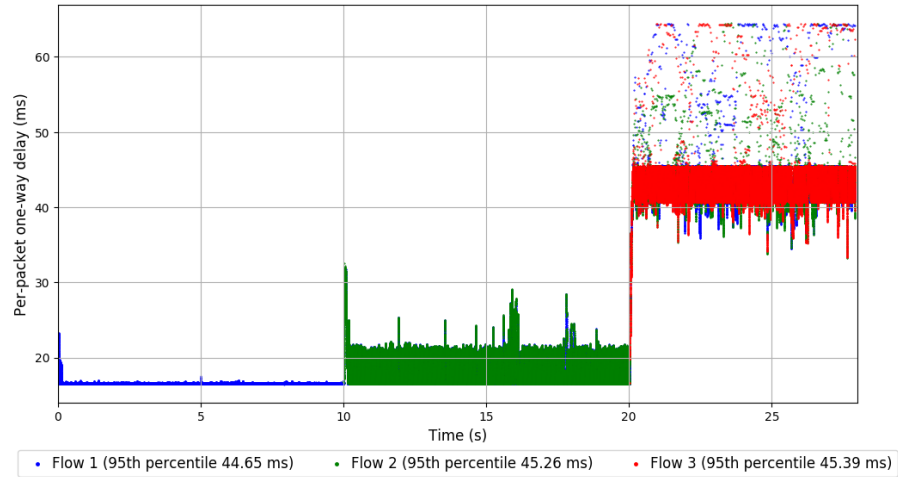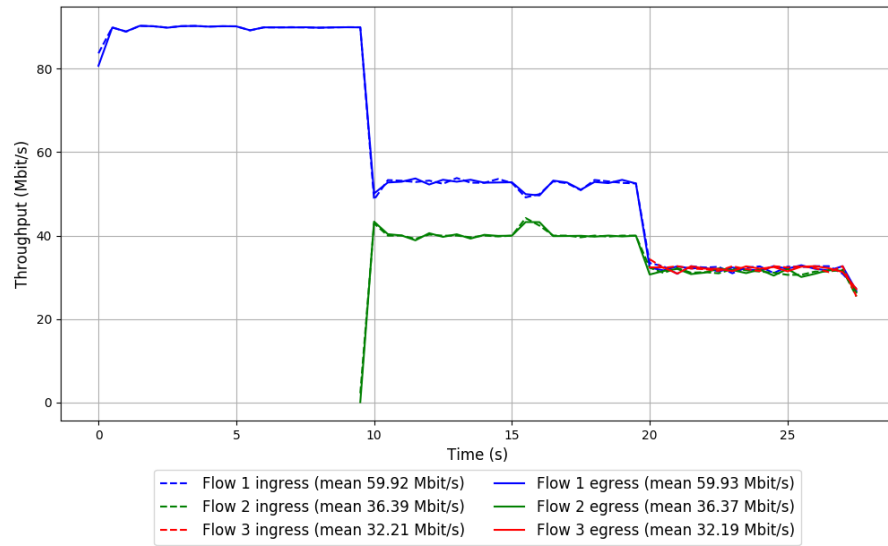
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 56.44 Mbit/s) --- Flow 1 egress (mean 56.45 Mbit/s)
Flow 2 ingress (mean 38.38 Mbit/s) --- Flow 2 egress (mean 38.38 Mbit/s)
Flow 3 ingress (mean 32.00 Mbit/s) --- Flow 3 egress (mean 31.97 Mbit/s)

Flow 1 (95th percentile 30.42 ms) • Flow 2 (95th percentile 31.21 ms) • Flow 3 (95th percentile 31.29 ms)

```
Run 3: Statistics of TaoVA-100x

Start at: 2018-01-16 23:54:19
End at: 2018-01-16 23:54:49
Local clock offset: 0.109 ms
Remote clock offset: 0.244 ms


# Below is generated by plot.py at 2018-01-17 05:58:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.94 Mbit/s
95th percentile per-packet one-way delay: 31.126 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 57.82 Mbit/s
95th percentile per-packet one-way delay: 30.915 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 30.395 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 31.251 ms
Loss rate: 0.37%
```
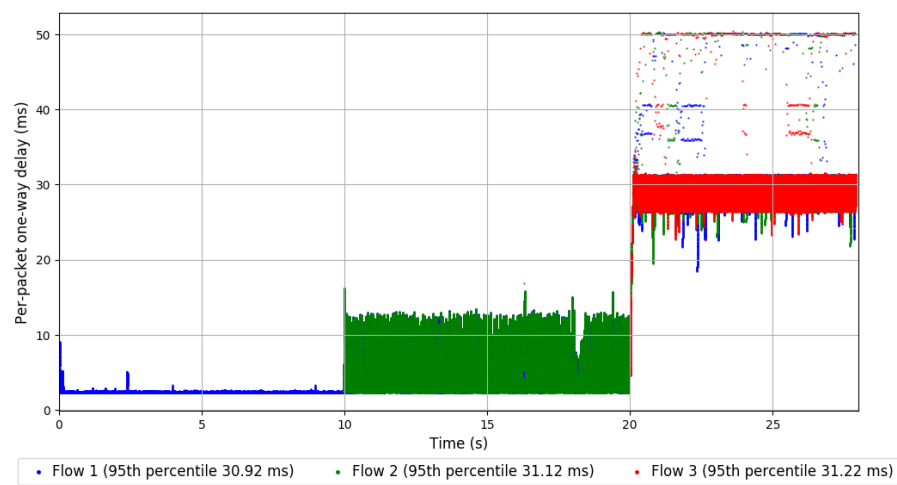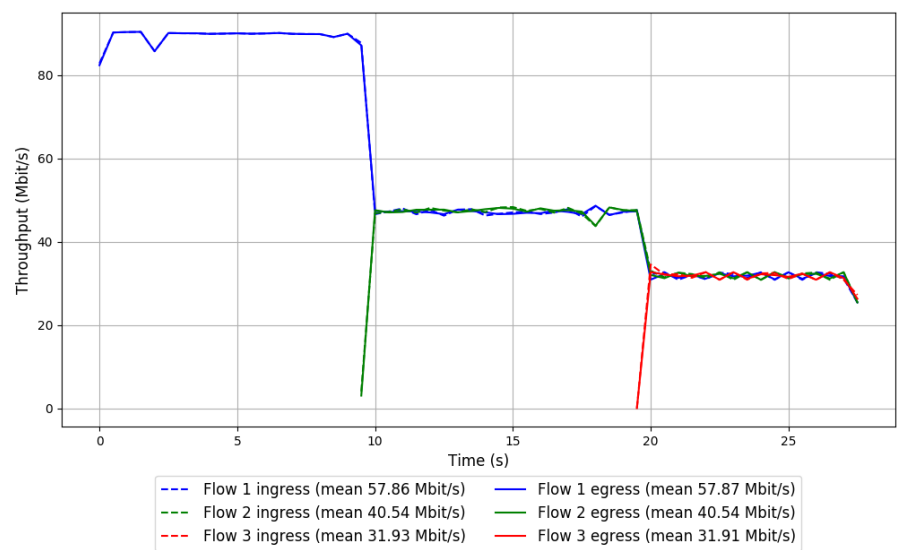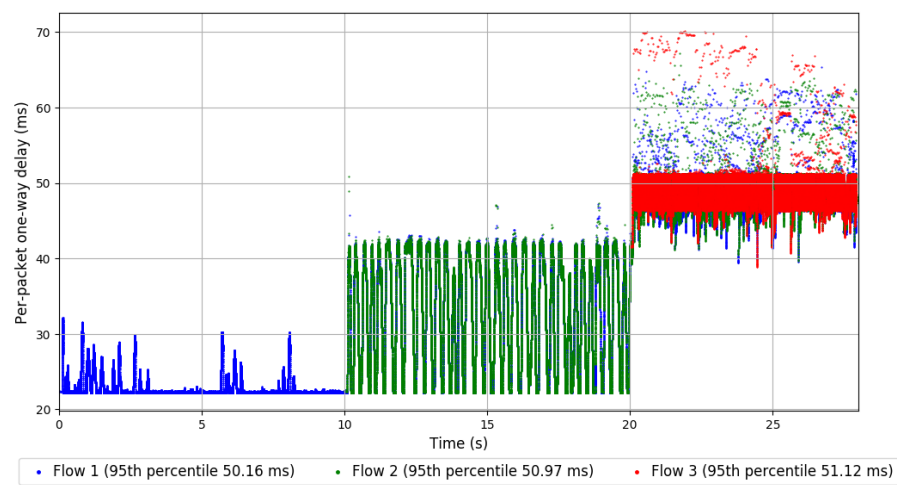
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 57.80 Mbit/s) --- Flow 1 egress (mean 57.82 Mbit/s)
Flow 2 ingress (mean 40.62 Mbit/s) --- Flow 2 egress (mean 40.62 Mbit/s)
Flow 3 ingress (mean 31.89 Mbit/s) --- Flow 3 egress (mean 31.87 Mbit/s)

Flow 1 (95th percentile 30.91 ms)   Flow 2 (95th percentile 30.39 ms)   Flow 3 (95th percentile 31.25 ms)

```
Run 4: Statistics of TaoVA-100x

Start at: 2018-01-17 00:14:48
End at: 2018-01-17 00:15:18
Local clock offset: 0.172 ms
Remote clock offset: 0.378 ms

# Below is generated by plot.py at 2018-01-17 05:58:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 31.093 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.24 Mbit/s
95th percentile per-packet one-way delay: 30.856 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 39.94 Mbit/s
95th percentile per-packet one-way delay: 30.971 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.79 Mbit/s
95th percentile per-packet one-way delay: 31.225 ms
Loss rate: 0.38%
```
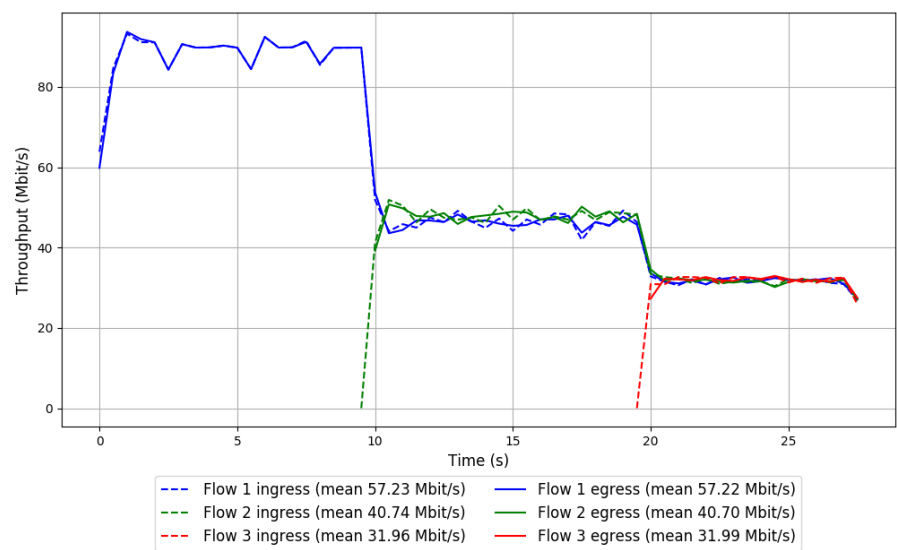
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 58.23 Mbit/s)   Flow 1 egress (mean 58.24 Mbit/s)
Flow 2 ingress (mean 39.94 Mbit/s)   Flow 2 egress (mean 39.94 Mbit/s)
Flow 3 ingress (mean 31.85 Mbit/s)   Flow 3 egress (mean 31.79 Mbit/s)

Flow 1 (95th percentile 30.86 ms)   Flow 2 (95th percentile 30.97 ms)   Flow 3 (95th percentile 31.23 ms)

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```
Run 5: Statistics of TaoVA-100x

Start at: 2018-01-17 00:35:21
End at: 2018-01-17 00:35:51
Local clock offset: 0.203 ms
Remote clock offset: -13.82 ms


# Below is generated by plot.py at 2018-01-17 05:58:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.40 Mbit/s
95th percentile per-packet one-way delay: 45.268 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 59.93 Mbit/s
95th percentile per-packet one-way delay: 44.650 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 45.257 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 45.394 ms
Loss rate: 0.36%
```
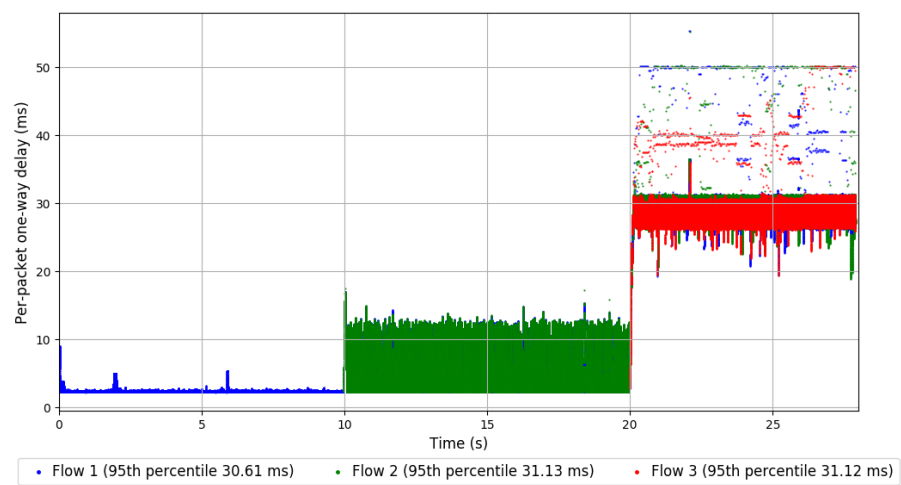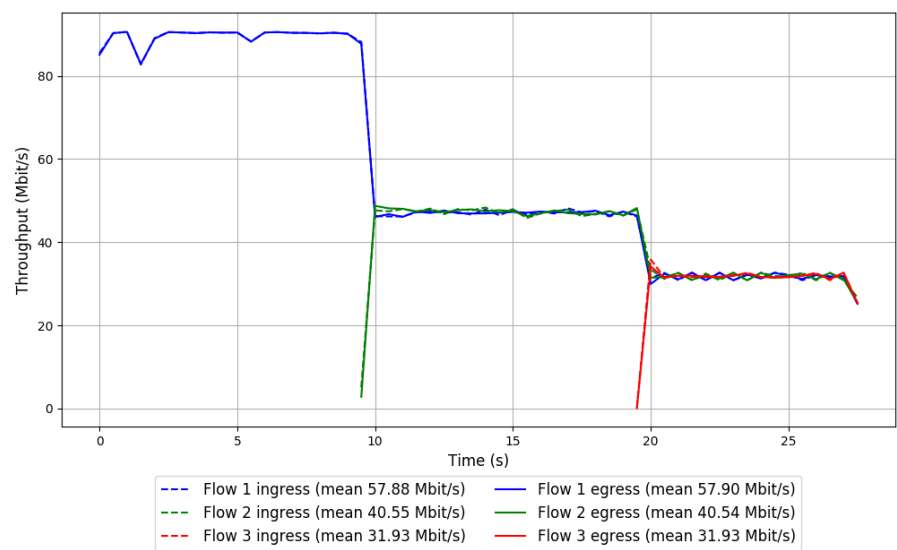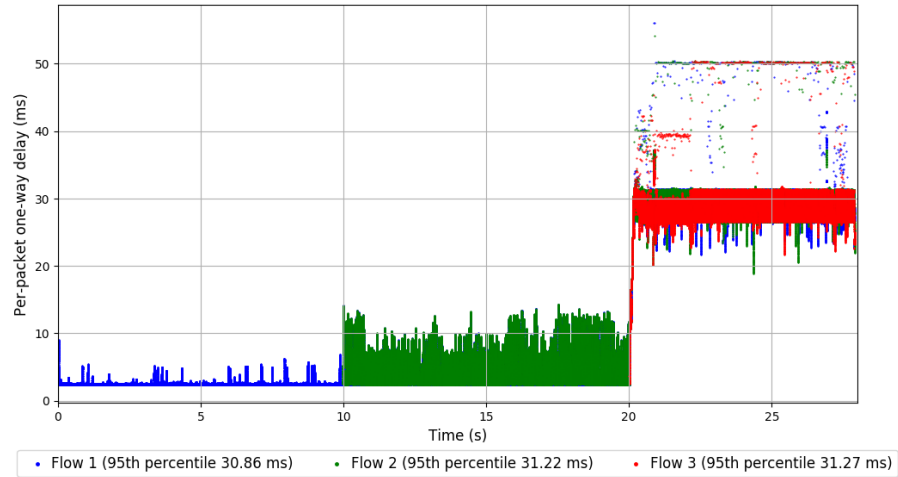
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 59.92 Mbit/s) — — — Flow 1 egress (mean 59.93 Mbit/s)
Flow 2 ingress (mean 36.39 Mbit/s) — — — Flow 2 egress (mean 36.37 Mbit/s)
Flow 3 ingress (mean 32.21 Mbit/s) — — — Flow 3 egress (mean 32.19 Mbit/s)

Flow 1 (95th percentile 44.65 ms)   Flow 2 (95th percentile 45.26 ms)   Flow 3 (95th percentile 45.39 ms)
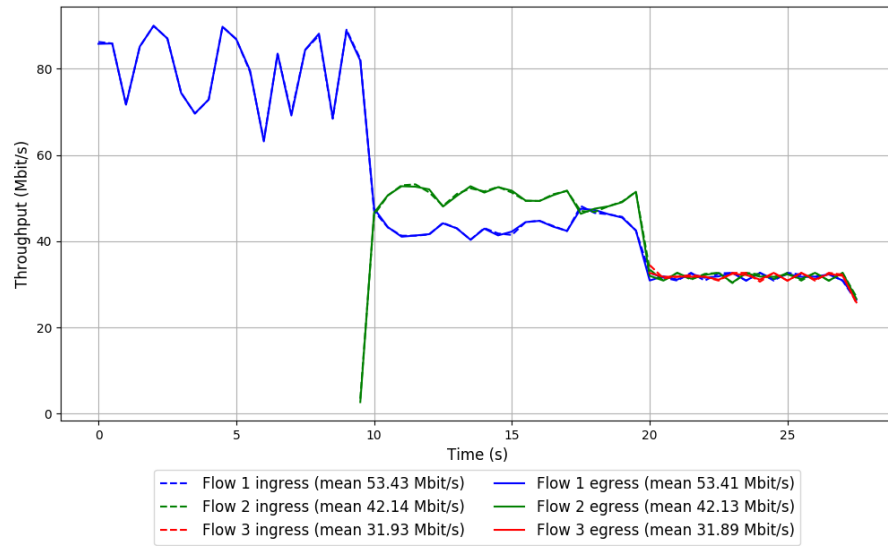
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```
Run 6: Statistics of TaoVA-100x

Start at: 2018-01-17 00:55:54
End at: 2018-01-17 00:56:24
Local clock offset: 0.273 ms
Remote clock offset: 0.247 ms

# Below is generated by plot.py at 2018-01-17 05:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 31.123 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 57.87 Mbit/s
95th percentile per-packet one-way delay: 30.919 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.54 Mbit/s
95th percentile per-packet one-way delay: 31.125 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.91 Mbit/s
95th percentile per-packet one-way delay: 31.222 ms
Loss rate: 0.47%
```
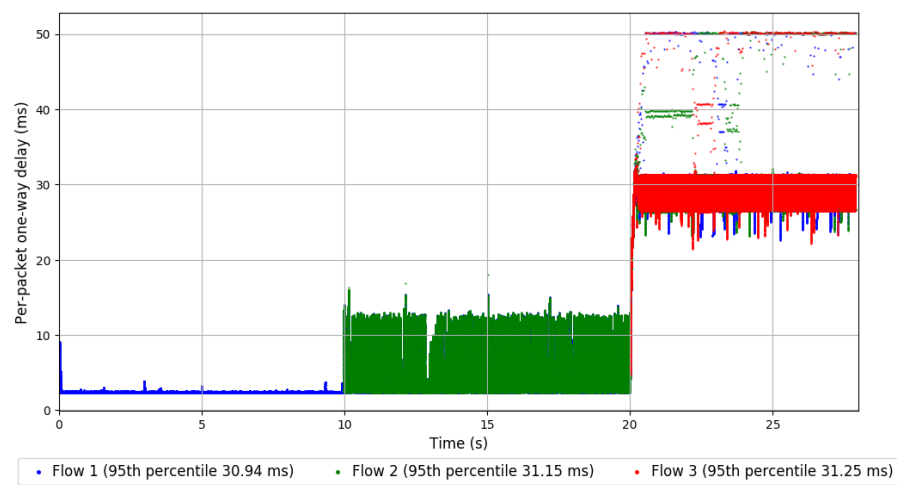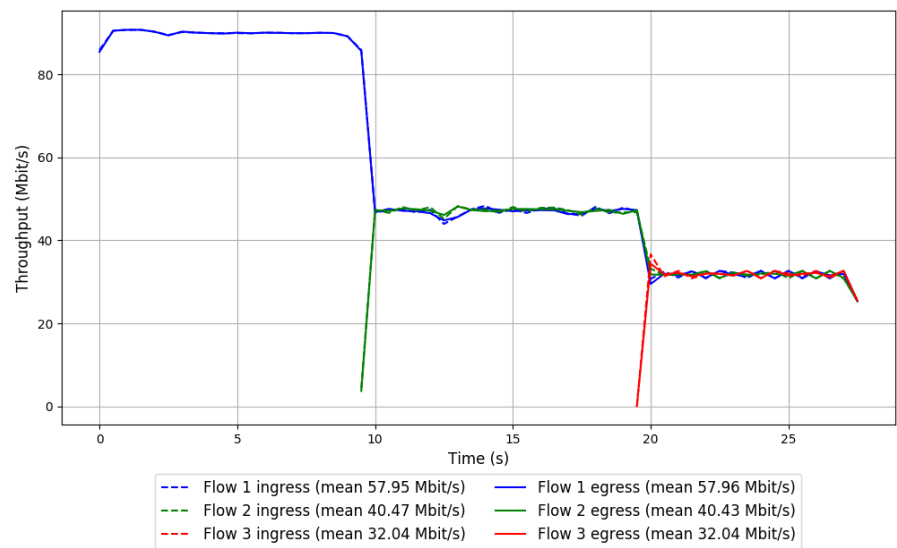
Run 6: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 57.86 Mbit/s) —— Flow 1 egress (mean 57.87 Mbit/s)
- - - Flow 2 ingress (mean 40.54 Mbit/s) —— Flow 2 egress (mean 40.54 Mbit/s)
- - - Flow 3 ingress (mean 31.93 Mbit/s) —— Flow 3 egress (mean 31.91 Mbit/s)

• Flow 1 (95th percentile 30.92 ms) • Flow 2 (95th percentile 31.12 ms) • Flow 3 (95th percentile 31.22 ms)

```
Run 7: Statistics of TaoVA-100x

Start at: 2018-01-17 01:16:26
End at: 2018-01-17 01:16:56
Local clock offset: 0.342 ms
Remote clock offset: -19.767 ms


# Below is generated by plot.py at 2018-01-17 05:58:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.39 Mbit/s
95th percentile per-packet one-way delay: 50.938 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 57.22 Mbit/s
95th percentile per-packet one-way delay: 50.163 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.70 Mbit/s
95th percentile per-packet one-way delay: 50.973 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 31.99 Mbit/s
95th percentile per-packet one-way delay: 51.123 ms
Loss rate: 0.36%
```
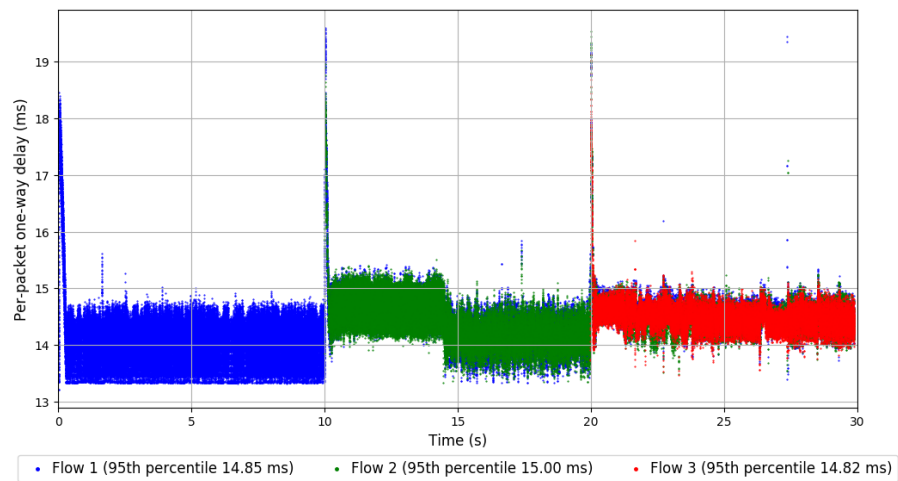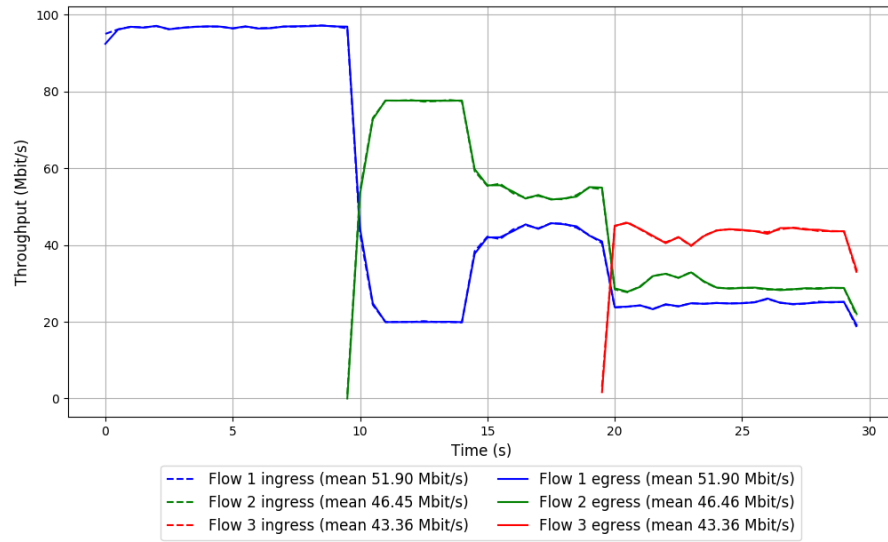
Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 57.23 Mbit/s) --- Flow 1 egress (mean 57.22 Mbit/s)
Flow 2 ingress (mean 40.74 Mbit/s) --- Flow 2 egress (mean 40.70 Mbit/s)
Flow 3 ingress (mean 31.96 Mbit/s) --- Flow 3 egress (mean 31.99 Mbit/s)

Flow 1 (95th percentile 50.16 ms)   Flow 2 (95th percentile 50.97 ms)   Flow 3 (95th percentile 51.12 ms)

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```
Run 8: Statistics of TaoVA-100x

Start at: 2018-01-17 01:37:00
End at: 2018-01-17 01:37:30
Local clock offset: 0.407 ms
Remote clock offset: 0.089 ms

# Below is generated by plot.py at 2018-01-17 05:59:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.99 Mbit/s
95th percentile per-packet one-way delay: 31.066 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 57.90 Mbit/s
95th percentile per-packet one-way delay: 30.608 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.54 Mbit/s
95th percentile per-packet one-way delay: 31.128 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 31.122 ms
Loss rate: 0.36%
```
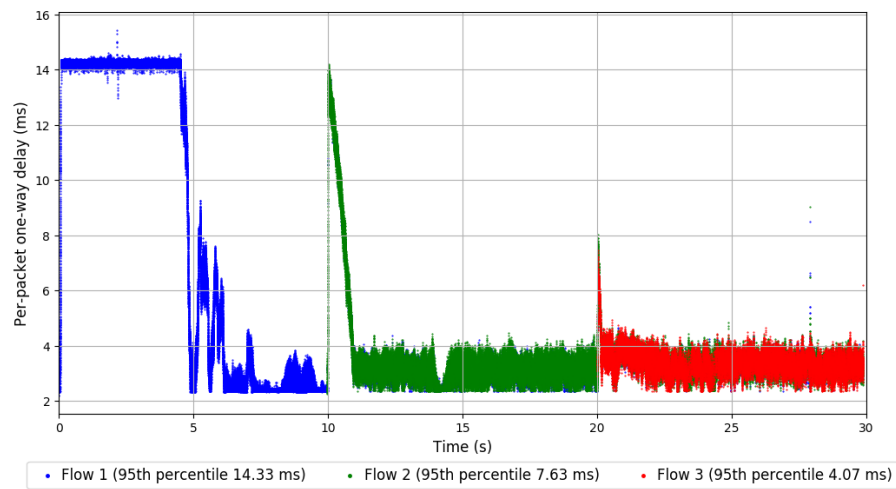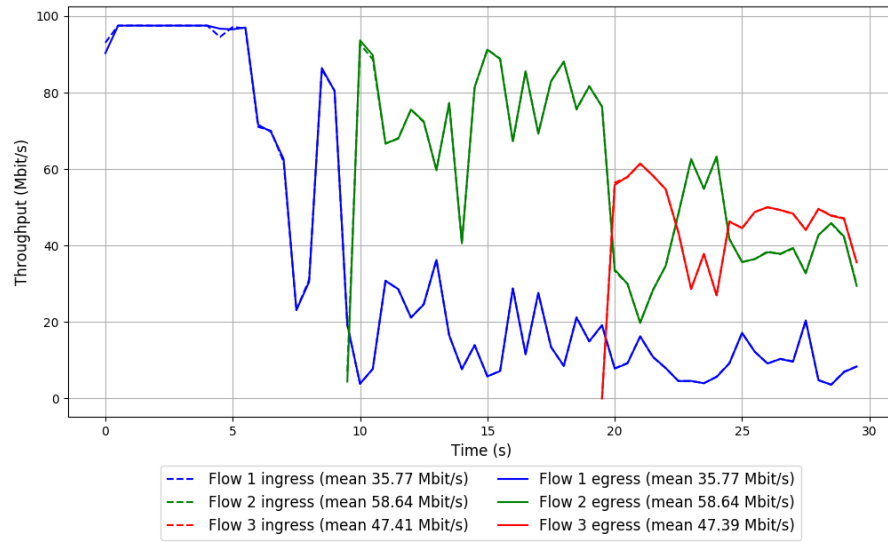
Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 57.88 Mbit/s) --- Flow 1 egress (mean 57.90 Mbit/s)
Flow 2 ingress (mean 40.55 Mbit/s) --- Flow 2 egress (mean 40.54 Mbit/s)
Flow 3 ingress (mean 31.93 Mbit/s) --- Flow 3 egress (mean 31.93 Mbit/s)

Flow 1 (95th percentile 30.61 ms) • Flow 2 (95th percentile 31.13 ms) • Flow 3 (95th percentile 31.12 ms)

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```
Run 9: Statistics of TaoVA-100x

Start at: 2018-01-17 01:57:33
End at: 2018-01-17 01:58:03
Local clock offset: 0.431 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2018-01-17 06:00:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.52 Mbit/s
95th percentile per-packet one-way delay: 31.190 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 53.41 Mbit/s
95th percentile per-packet one-way delay: 30.858 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 42.13 Mbit/s
95th percentile per-packet one-way delay: 31.217 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 31.89 Mbit/s
95th percentile per-packet one-way delay: 31.268 ms
Loss rate: 0.37%
```
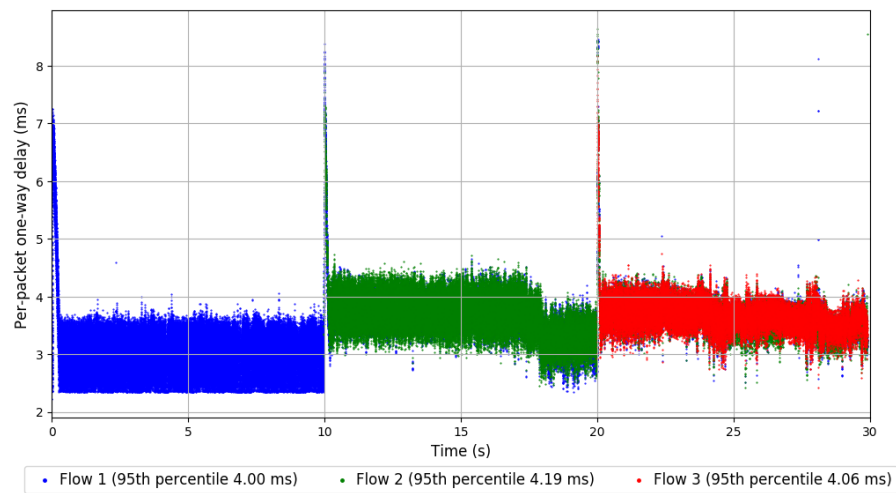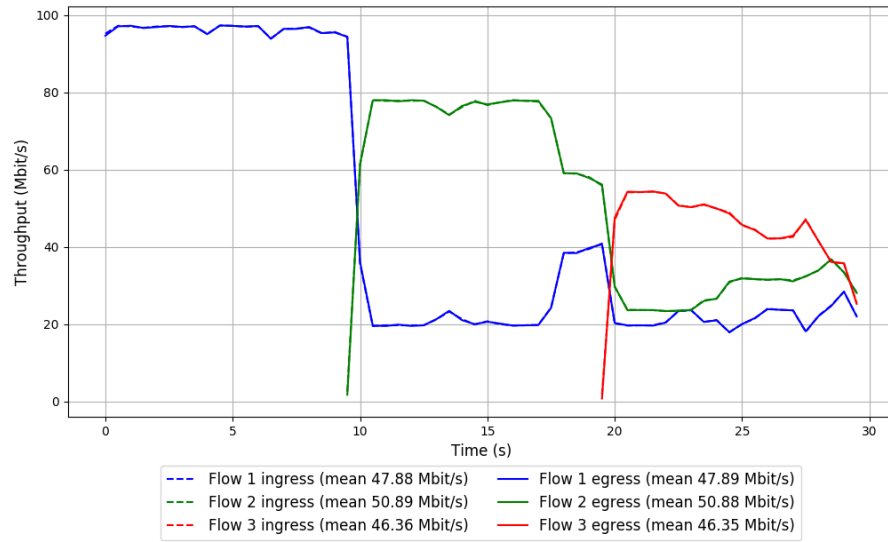
Run 9: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 53.43 Mbit/s) —— Flow 1 egress (mean 53.41 Mbit/s)
- - - Flow 2 ingress (mean 42.14 Mbit/s) —— Flow 2 egress (mean 42.13 Mbit/s)
- - - Flow 3 ingress (mean 31.93 Mbit/s) —— Flow 3 egress (mean 31.89 Mbit/s)

• Flow 1 (95th percentile 30.86 ms)   • Flow 2 (95th percentile 31.22 ms)   • Flow 3 (95th percentile 31.27 ms)

```
Run 10: Statistics of TaoVA-100x

Start at: 2018-01-17 02:18:10
End at: 2018-01-17 02:18:40
Local clock offset: 0.441 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.02 Mbit/s
95th percentile per-packet one-way delay: 31.158 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 30.939 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 31.151 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 31.247 ms
Loss rate: 0.37%
```
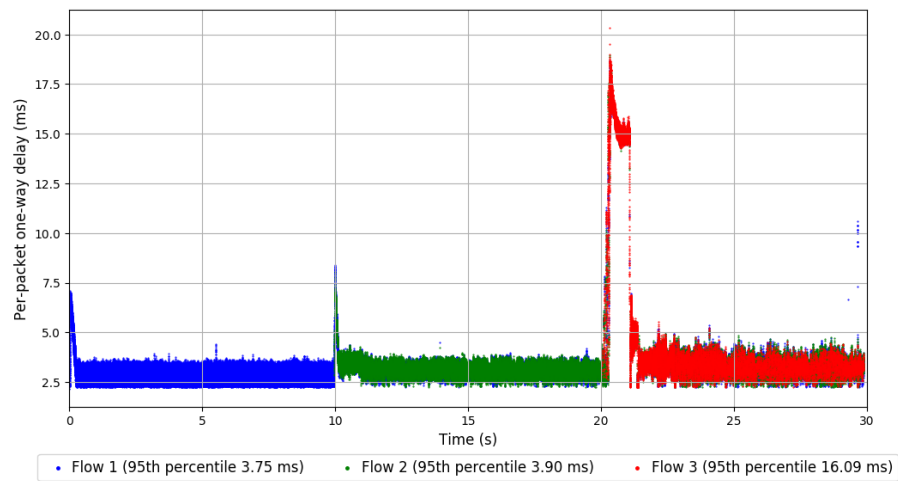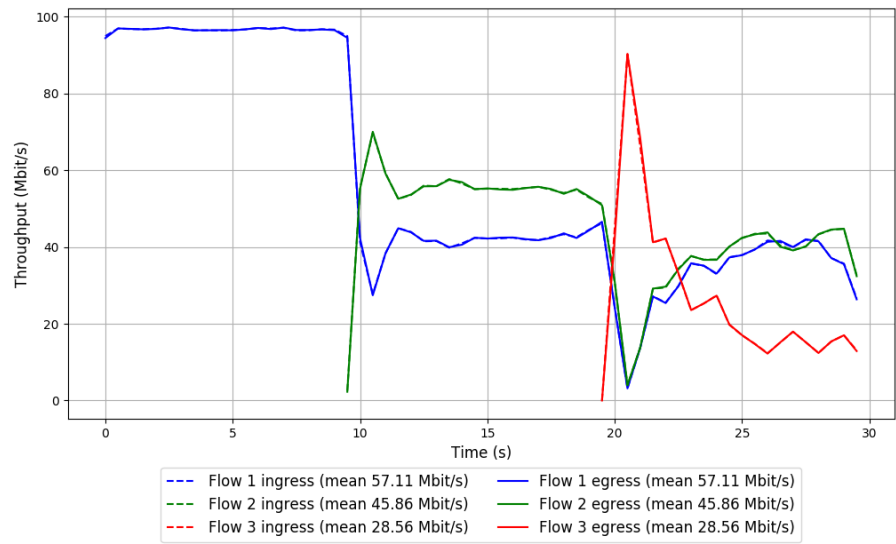
Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 57.95 Mbit/s) --- Flow 1 egress (mean 57.96 Mbit/s)
Flow 2 ingress (mean 40.47 Mbit/s) --- Flow 2 egress (mean 40.43 Mbit/s)
Flow 3 ingress (mean 32.04 Mbit/s) --- Flow 3 egress (mean 32.04 Mbit/s)

Flow 1 (95th percentile 30.94 ms) Flow 2 (95th percentile 31.15 ms) Flow 3 (95th percentile 31.25 ms)

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```
Run 1: Statistics of TCP Vegas

Start at: 2018-01-16 22:57:25
End at: 2018-01-16 22:57:55
Local clock offset: -0.026 ms
Remote clock offset: -11.444 ms


# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 14.925 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 51.90 Mbit/s
95th percentile per-packet one-way delay: 14.852 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 46.46 Mbit/s
95th percentile per-packet one-way delay: 15.000 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 43.36 Mbit/s
95th percentile per-packet one-way delay: 14.825 ms
Loss rate: 0.06%
```
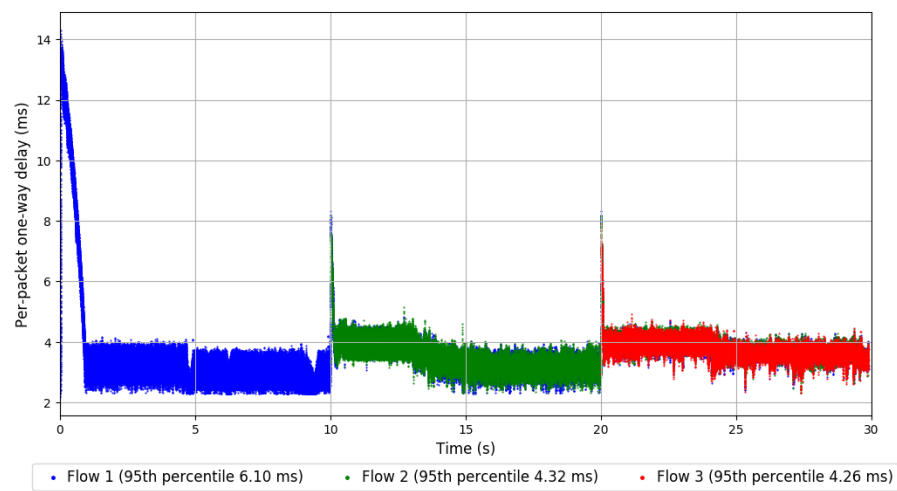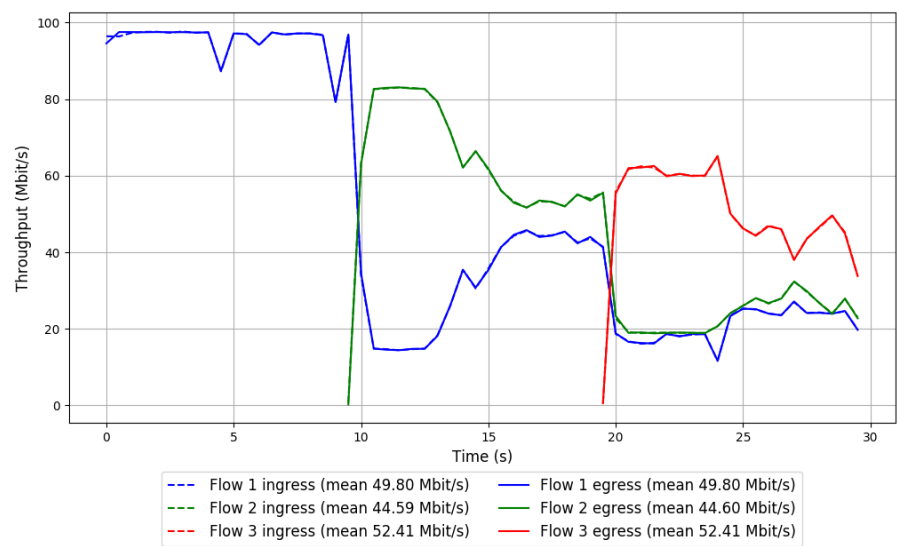
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-01-16 23:17:59
End at: 2018-01-16 23:18:29
Local clock offset: 0.013 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.51 Mbit/s
95th percentile per-packet one-way delay: 14.299 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 14.334 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 58.64 Mbit/s
95th percentile per-packet one-way delay: 7.632 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 47.39 Mbit/s
95th percentile per-packet one-way delay: 4.067 ms
Loss rate: 0.05%
```
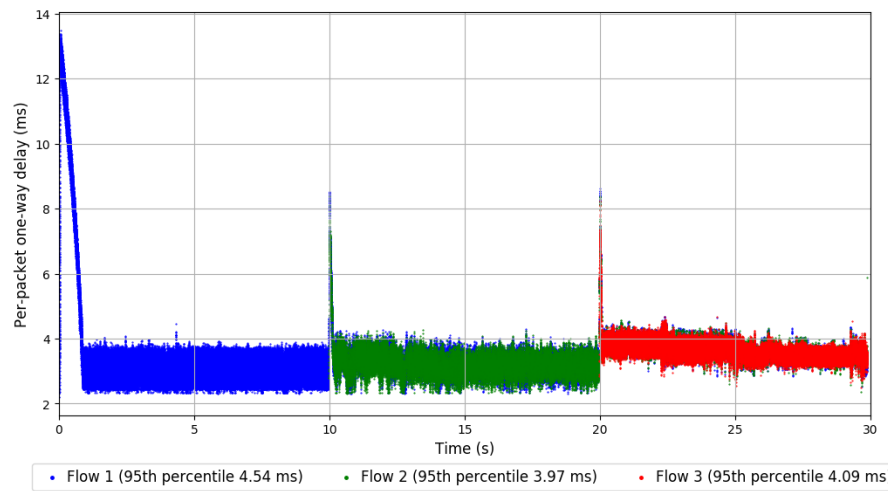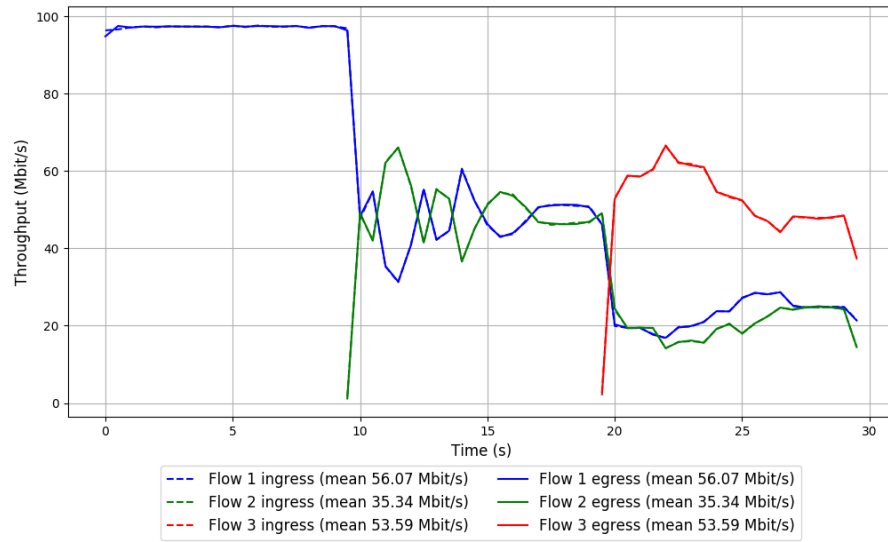
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-01-16 23:38:33
End at: 2018-01-16 23:39:03
Local clock offset: 0.078 ms
Remote clock offset: 0.058 ms


# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 4.118 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 47.89 Mbit/s
95th percentile per-packet one-way delay: 4.005 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 50.88 Mbit/s
95th percentile per-packet one-way delay: 4.190 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 46.35 Mbit/s
95th percentile per-packet one-way delay: 4.058 ms
Loss rate: 0.04%
```
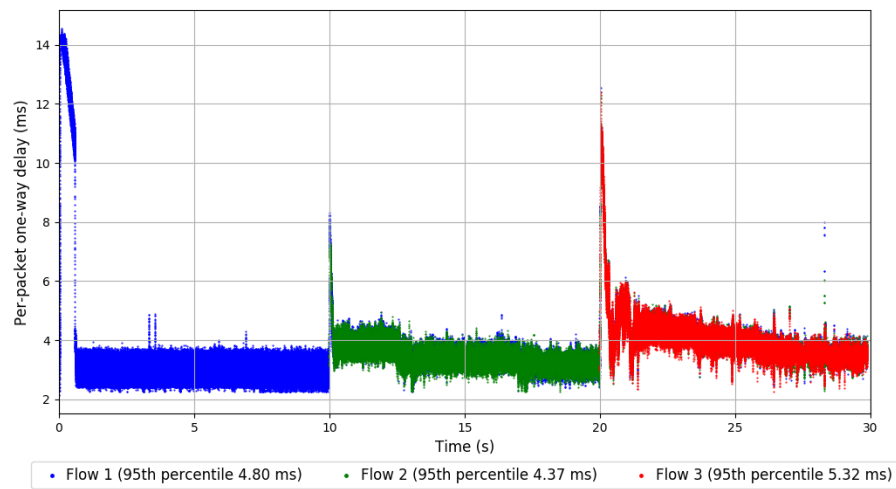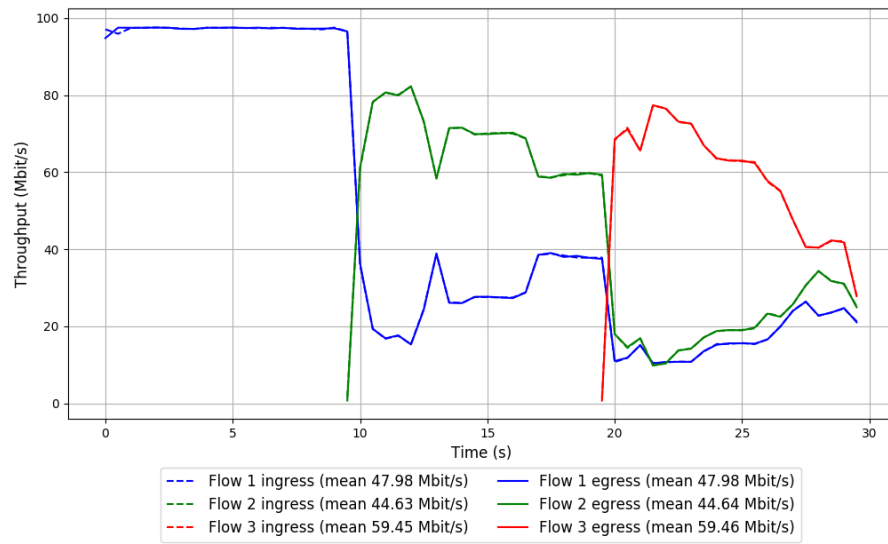
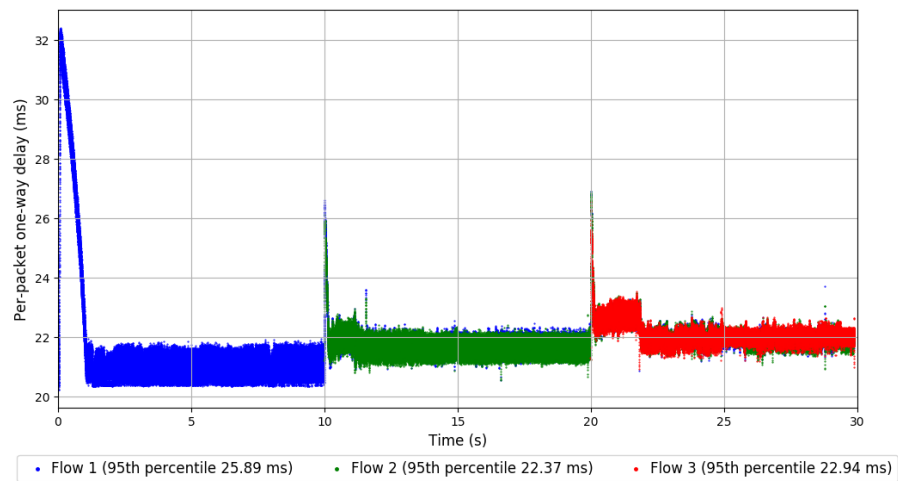Run 3: Report of TCP Vegas — Data Link

Run 4: Statistics of TCP Vegas

Start at: 2018-01-16 23:59:04
End at: 2018-01-16 23:59:34
Local clock offset: 0.109 ms
Remote clock offset: 0.271 ms

Run 4: Report of TCP Vegas — Data Link

Figure is missing

Figure is missing

```
Run 5: Statistics of TCP Vegas

Start at: 2018-01-17 00:19:34
End at: 2018-01-17 00:20:04
Local clock offset: 0.102 ms
Remote clock offset: 0.417 ms


# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 4.309 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 57.11 Mbit/s
95th percentile per-packet one-way delay: 3.750 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 45.86 Mbit/s
95th percentile per-packet one-way delay: 3.905 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 28.56 Mbit/s
95th percentile per-packet one-way delay: 16.092 ms
Loss rate: 0.08%
```
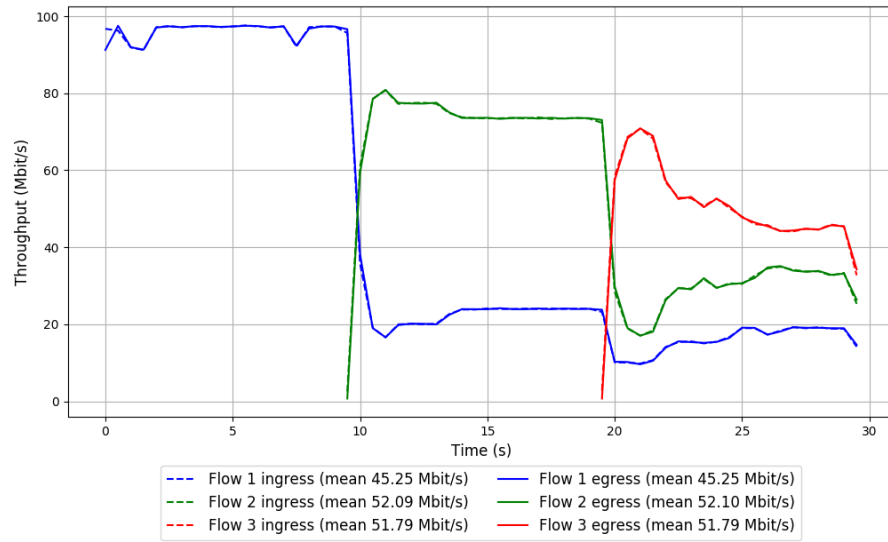
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2018-01-17 00:40:08
End at: 2018-01-17 00:40:38
Local clock offset: 0.217 ms
Remote clock offset: 0.388 ms


# Below is generated by plot.py at 2018-01-17 06:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 4.362 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.80 Mbit/s
95th percentile per-packet one-way delay: 6.102 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.60 Mbit/s
95th percentile per-packet one-way delay: 4.321 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 52.41 Mbit/s
95th percentile per-packet one-way delay: 4.257 ms
Loss rate: 0.05%
```
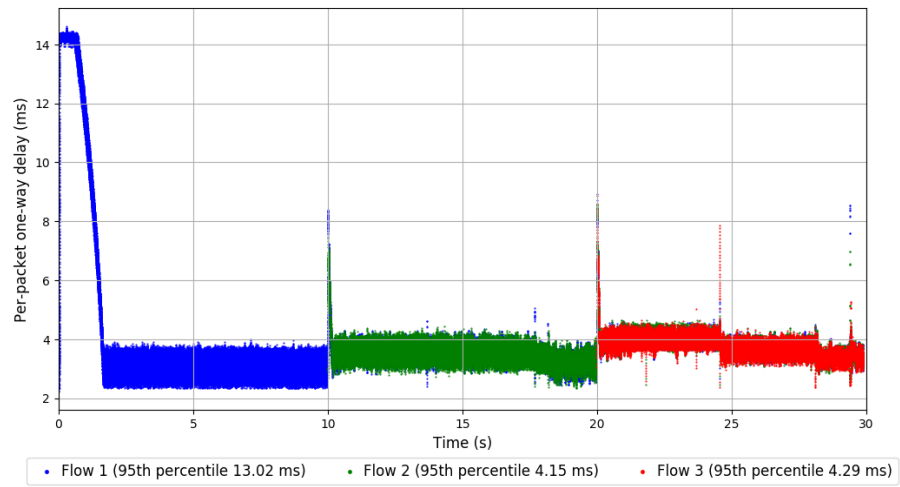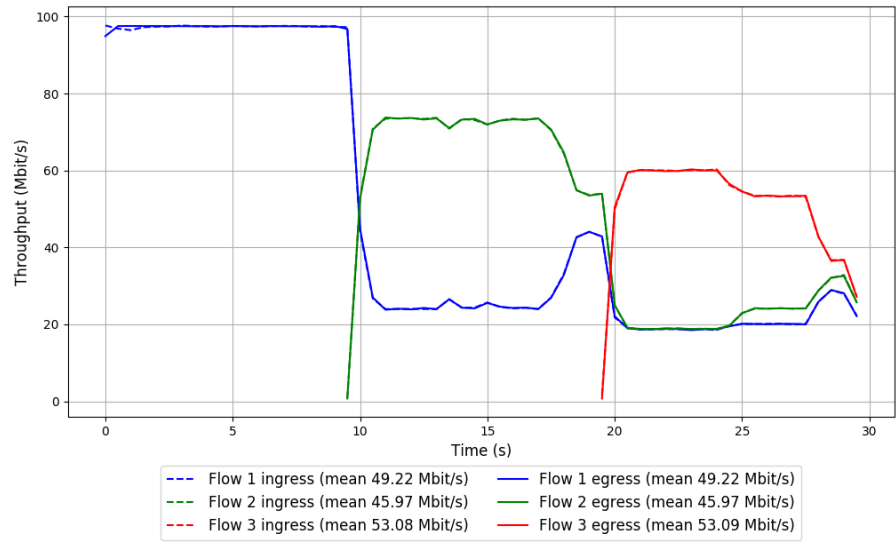
Run 6: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 49.80 Mbit/s)   —— Flow 1 egress (mean 49.80 Mbit/s)
- - - Flow 2 ingress (mean 44.59 Mbit/s)   —— Flow 2 egress (mean 44.60 Mbit/s)
- - - Flow 3 ingress (mean 52.41 Mbit/s)   —— Flow 3 egress (mean 52.41 Mbit/s)

- Flow 1 (95th percentile 6.10 ms)   • Flow 2 (95th percentile 4.32 ms)   • Flow 3 (95th percentile 4.26 ms)

```
Run 7: Statistics of TCP Vegas

Start at: 2018-01-17 01:00:38
End at: 2018-01-17 01:01:08
Local clock offset: 0.299 ms
Remote clock offset: 0.228 ms


# Below is generated by plot.py at 2018-01-17 06:00:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 4.094 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 56.07 Mbit/s
95th percentile per-packet one-way delay: 4.544 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 3.969 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 53.59 Mbit/s
95th percentile per-packet one-way delay: 4.094 ms
Loss rate: 0.05%
```
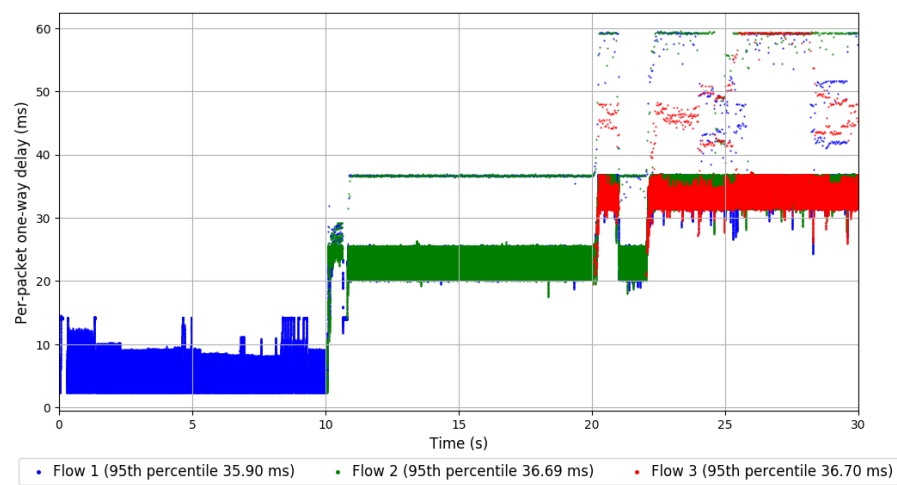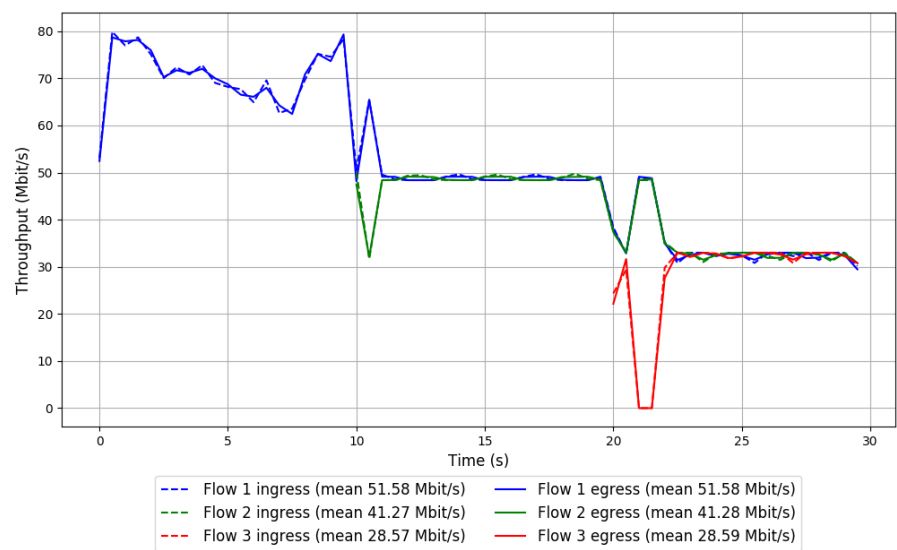
Run 7: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 56.07 Mbit/s)   Flow 1 egress (mean 56.07 Mbit/s)
Flow 2 ingress (mean 35.34 Mbit/s)   Flow 2 egress (mean 35.34 Mbit/s)
Flow 3 ingress (mean 53.59 Mbit/s)   Flow 3 egress (mean 53.59 Mbit/s)

Flow 1 (95th percentile 4.54 ms)   Flow 2 (95th percentile 3.97 ms)   Flow 3 (95th percentile 4.09 ms)
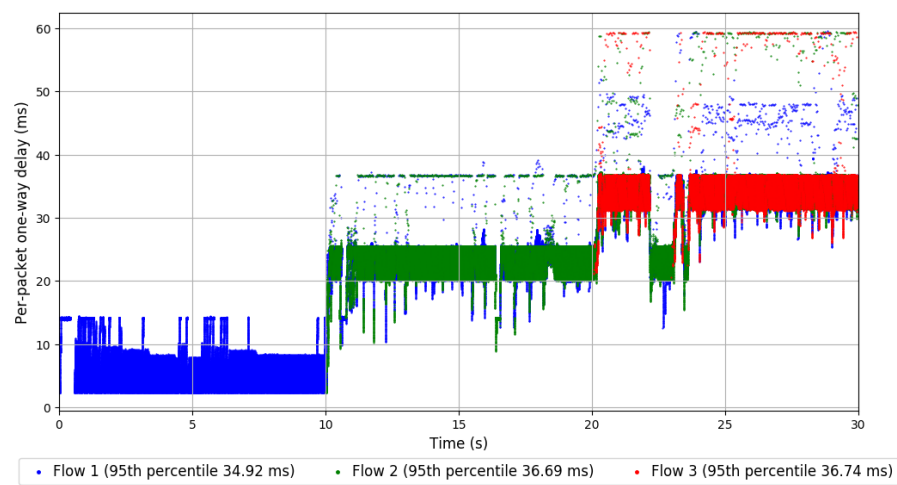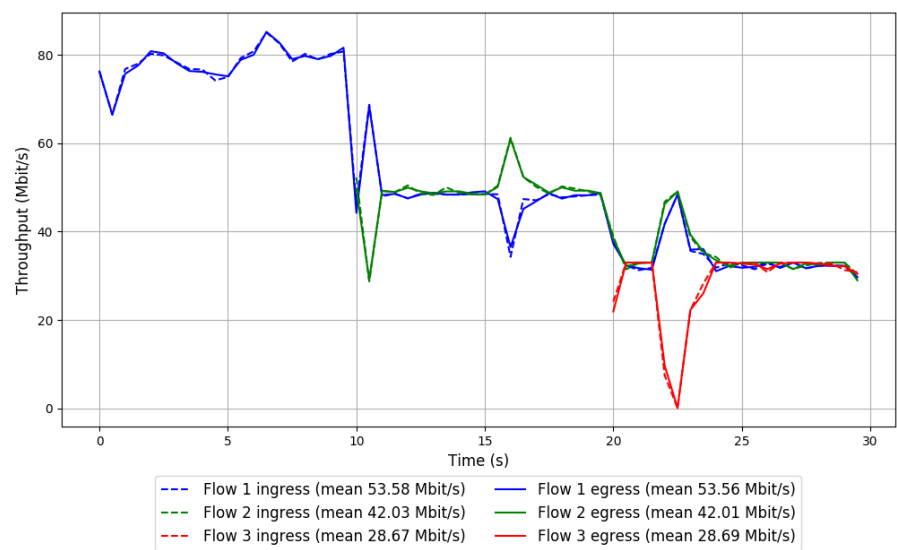
197

```
Run 8: Statistics of TCP Vegas

Start at: 2018-01-17 01:21:14
End at: 2018-01-17 01:21:44
Local clock offset: 0.296 ms
Remote clock offset: 0.157 ms


# Below is generated by plot.py at 2018-01-17 06:01:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 4.820 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 47.98 Mbit/s
95th percentile per-packet one-way delay: 4.803 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.64 Mbit/s
95th percentile per-packet one-way delay: 4.368 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 59.46 Mbit/s
95th percentile per-packet one-way delay: 5.324 ms
Loss rate: 0.04%
```
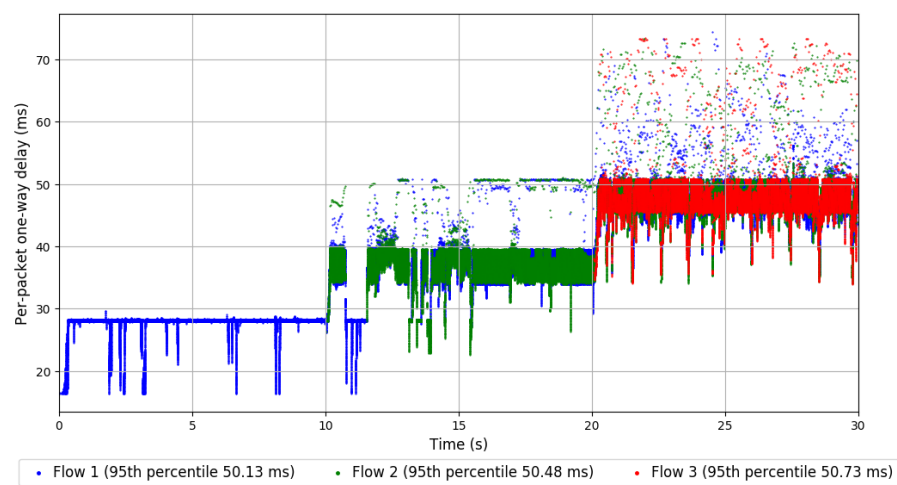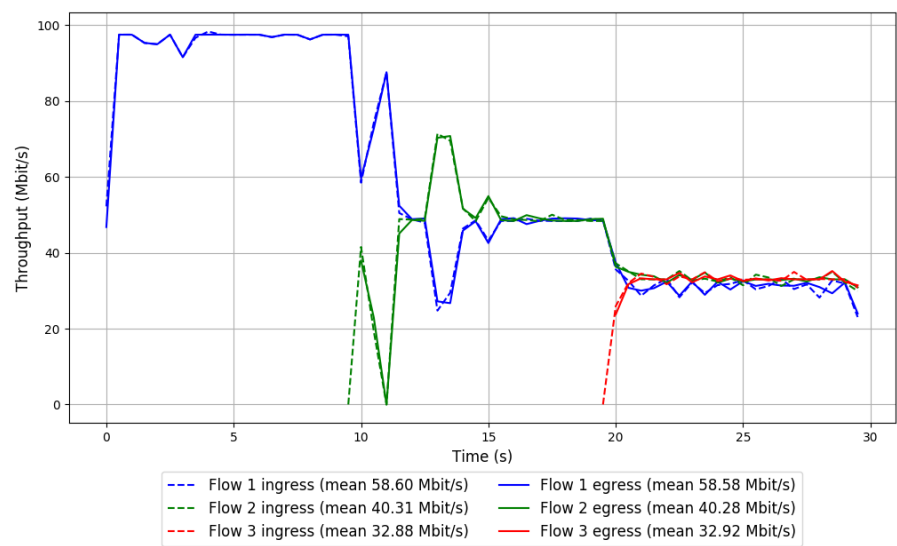
Run 8: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 47.98 Mbit/s) ——— Flow 1 egress (mean 47.98 Mbit/s)
- - - Flow 2 ingress (mean 44.63 Mbit/s) ——— Flow 2 egress (mean 44.64 Mbit/s)
- - - Flow 3 ingress (mean 59.45 Mbit/s) ——— Flow 3 egress (mean 59.46 Mbit/s)

- Flow 1 (95th percentile 4.80 ms)   - Flow 2 (95th percentile 4.37 ms)   - Flow 3 (95th percentile 5.32 ms)
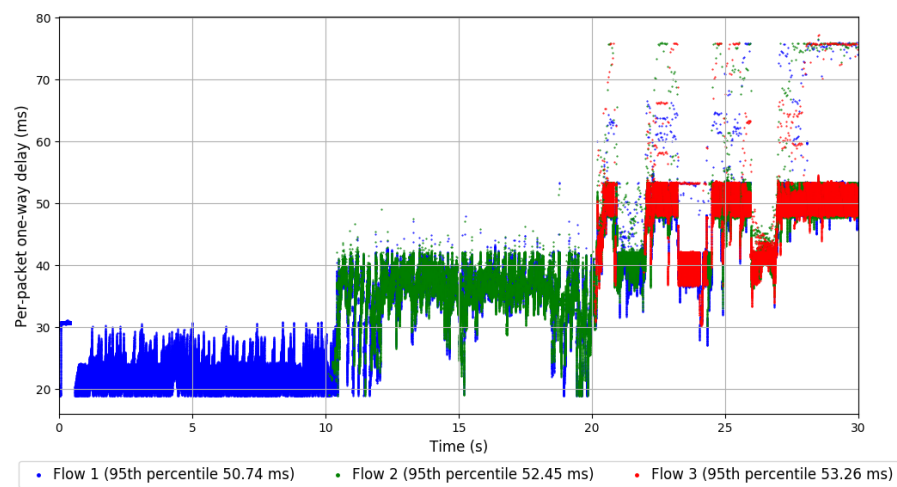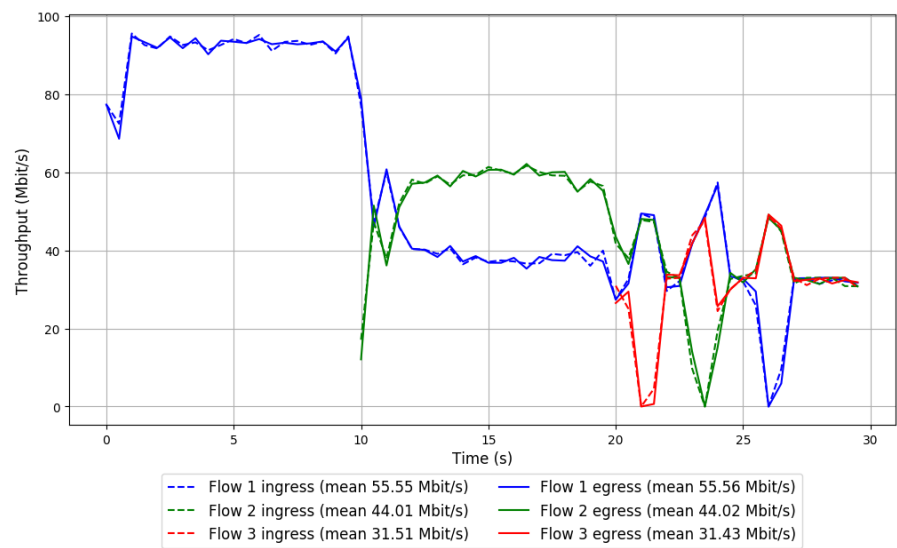
199

```
Run 9: Statistics of TCP Vegas

Start at: 2018-01-17 01:41:46
End at: 2018-01-17 01:42:16
Local clock offset: 0.414 ms
Remote clock offset: -17.931 ms


# Below is generated by plot.py at 2018-01-17 06:01:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.13 Mbit/s
95th percentile per-packet one-way delay: 22.915 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 45.25 Mbit/s
95th percentile per-packet one-way delay: 25.893 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 52.10 Mbit/s
95th percentile per-packet one-way delay: 22.374 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 51.79 Mbit/s
95th percentile per-packet one-way delay: 22.941 ms
Loss rate: 0.05%
```

Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 45.25 Mbit/s) --- Flow 1 egress (mean 45.25 Mbit/s)
Flow 2 ingress (mean 52.09 Mbit/s) --- Flow 2 egress (mean 52.10 Mbit/s)
Flow 3 ingress (mean 51.79 Mbit/s) --- Flow 3 egress (mean 51.79 Mbit/s)

Flow 1 (95th percentile 25.89 ms)   Flow 2 (95th percentile 22.37 ms)   Flow 3 (95th percentile 22.94 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-01-17 02:02:20
End at: 2018-01-17 02:02:50
Local clock offset: 0.441 ms
Remote clock offset: 0.042 ms


# Below is generated by plot.py at 2018-01-17 06:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 6.358 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.22 Mbit/s
95th percentile per-packet one-way delay: 13.022 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 45.97 Mbit/s
95th percentile per-packet one-way delay: 4.152 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 53.09 Mbit/s
95th percentile per-packet one-way delay: 4.295 ms
Loss rate: 0.04%
```

Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-01-16 23:05:11
End at: 2018-01-16 23:05:41
Local clock offset: -0.014 ms
Remote clock offset: -0.445 ms


# Below is generated by plot.py at 2018-01-17 06:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 36.627 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 35.899 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 36.688 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 28.59 Mbit/s
95th percentile per-packet one-way delay: 36.702 ms
Loss rate: 0.39%
```
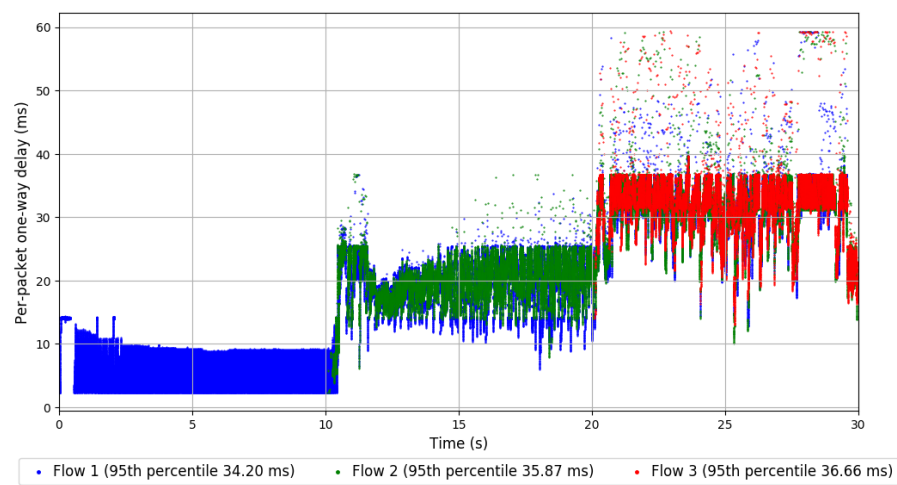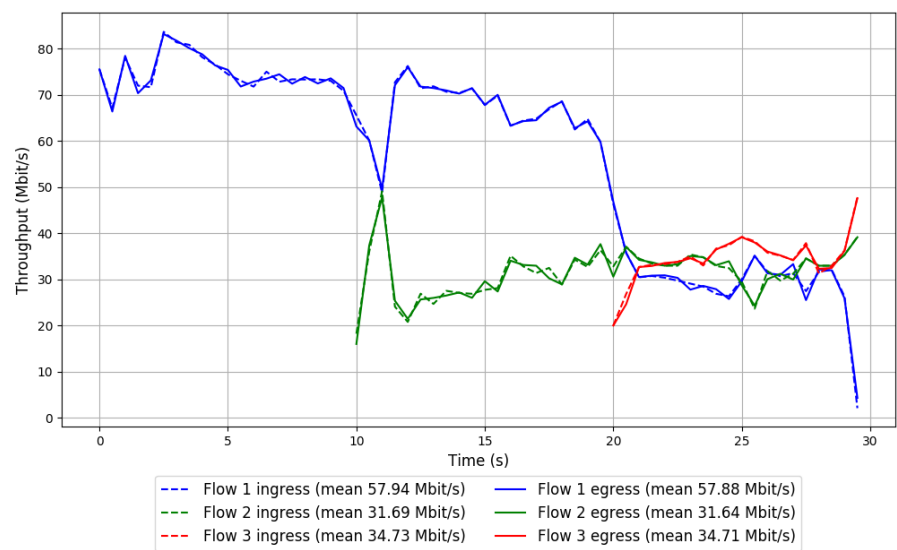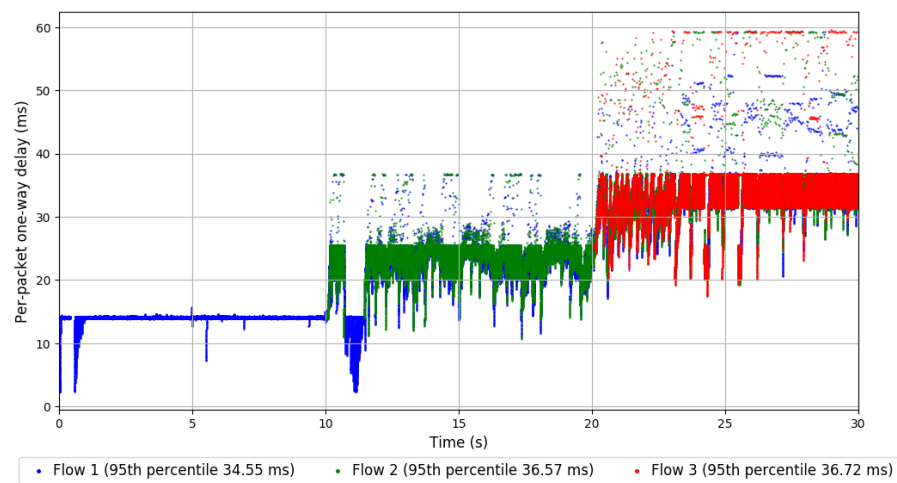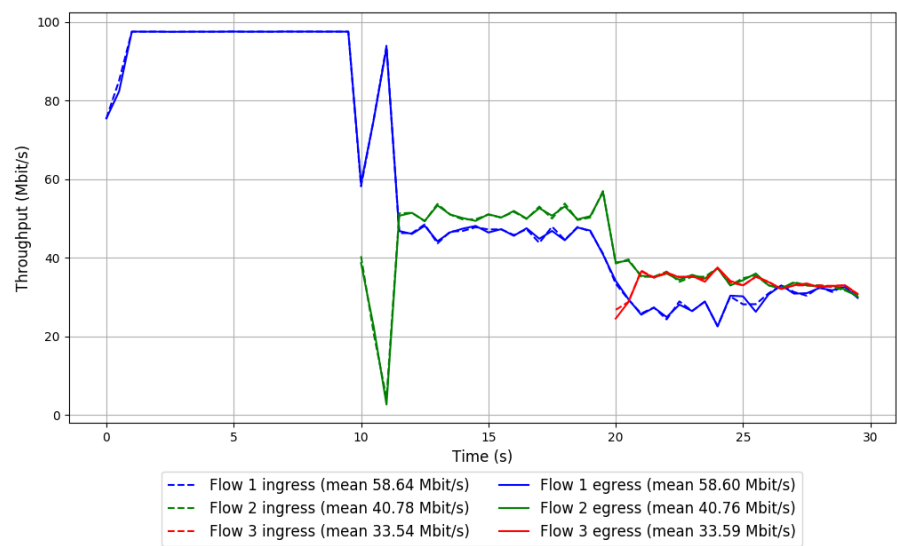
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-01-16 23:25:44
End at: 2018-01-16 23:26:14
Local clock offset: 0.046 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2018-01-17 06:01:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 36.622 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 53.56 Mbit/s
95th percentile per-packet one-way delay: 34.922 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 42.01 Mbit/s
95th percentile per-packet one-way delay: 36.689 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 28.69 Mbit/s
95th percentile per-packet one-way delay: 36.739 ms
Loss rate: 0.39%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-01-16 23:46:19
End at: 2018-01-16 23:46:49
Local clock offset: 0.087 ms
Remote clock offset: -13.87 ms


# Below is generated by plot.py at 2018-01-17 06:02:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 50.547 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.58 Mbit/s
95th percentile per-packet one-way delay: 50.135 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 50.475 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 32.92 Mbit/s
95th percentile per-packet one-way delay: 50.735 ms
Loss rate: 0.34%
```
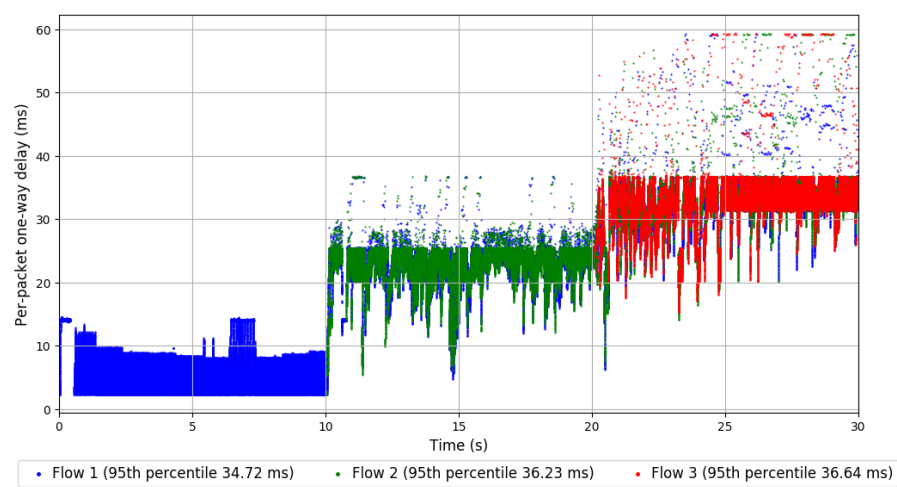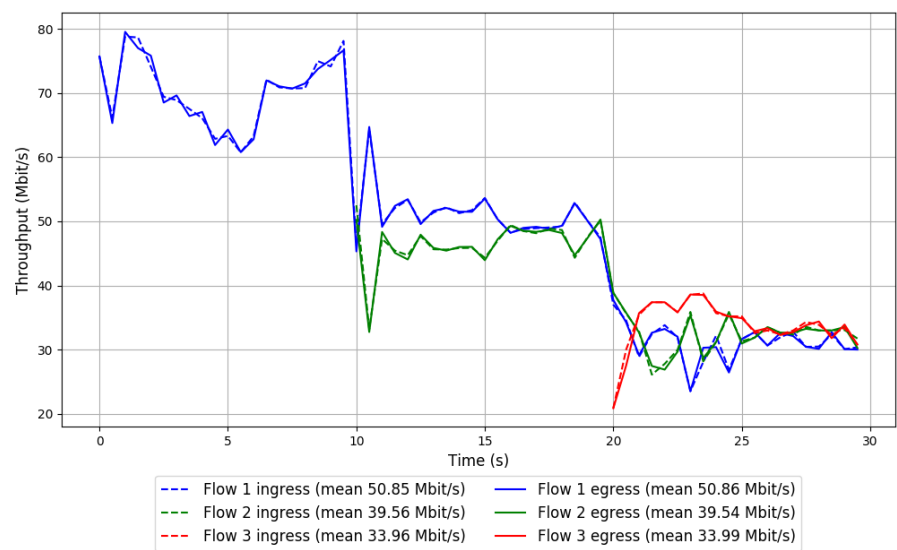
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-01-17 00:06:48
End at: 2018-01-17 00:07:18
Local clock offset: 0.132 ms
Remote clock offset: -16.273 ms


# Below is generated by plot.py at 2018-01-17 06:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 52.234 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 55.56 Mbit/s
95th percentile per-packet one-way delay: 50.739 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 44.02 Mbit/s
95th percentile per-packet one-way delay: 52.451 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 53.259 ms
Loss rate: 0.48%
```
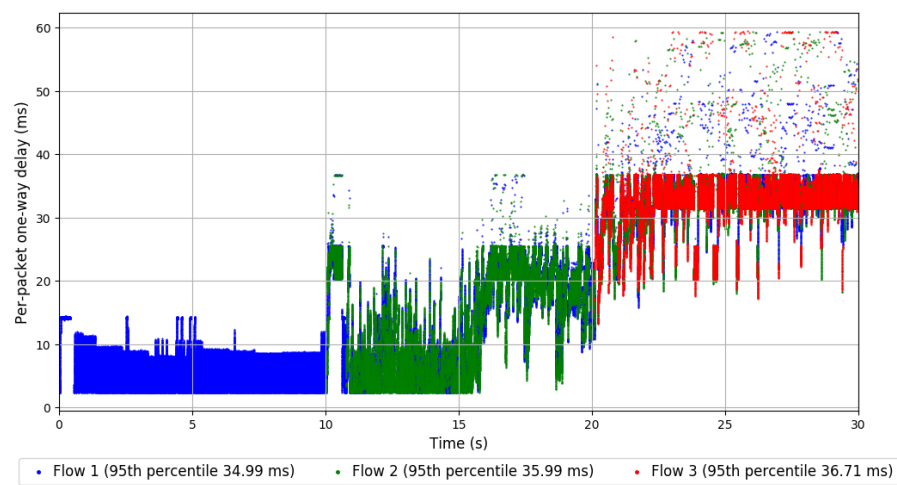
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-01-17 00:27:21
End at: 2018-01-17 00:27:51
Local clock offset: 0.186 ms
Remote clock offset: 0.479 ms

# Below is generated by plot.py at 2018-01-17 06:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.61 Mbit/s
95th percentile per-packet one-way delay: 35.687 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 57.88 Mbit/s
95th percentile per-packet one-way delay: 34.200 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 35.868 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 34.71 Mbit/s
95th percentile per-packet one-way delay: 36.657 ms
Loss rate: 0.36%
```
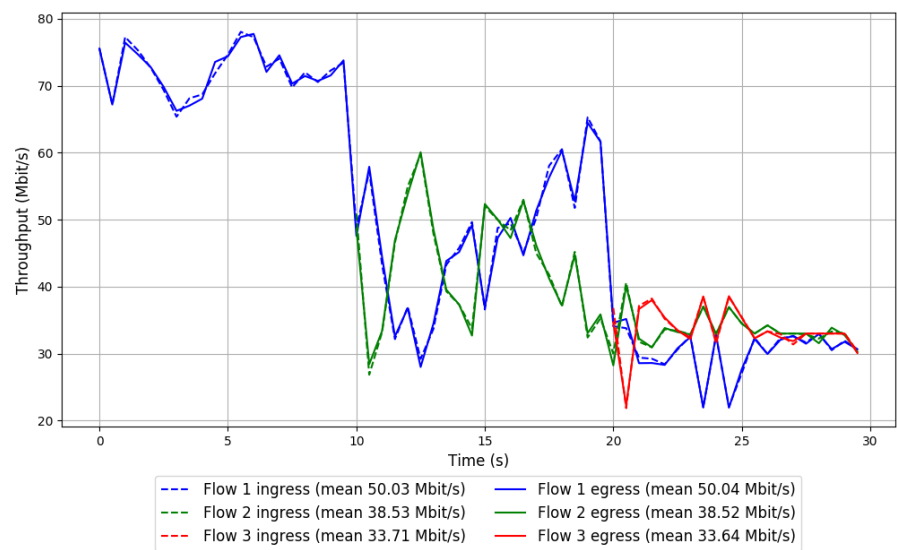
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2018-01-17 00:47:54
End at: 2018-01-17 00:48:24
Local clock offset: 0.263 ms
Remote clock offset: 0.297 ms

# Below is generated by plot.py at 2018-01-17 06:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 36.321 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 34.552 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.76 Mbit/s
95th percentile per-packet one-way delay: 36.568 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 33.59 Mbit/s
95th percentile per-packet one-way delay: 36.717 ms
Loss rate: 0.34%
```
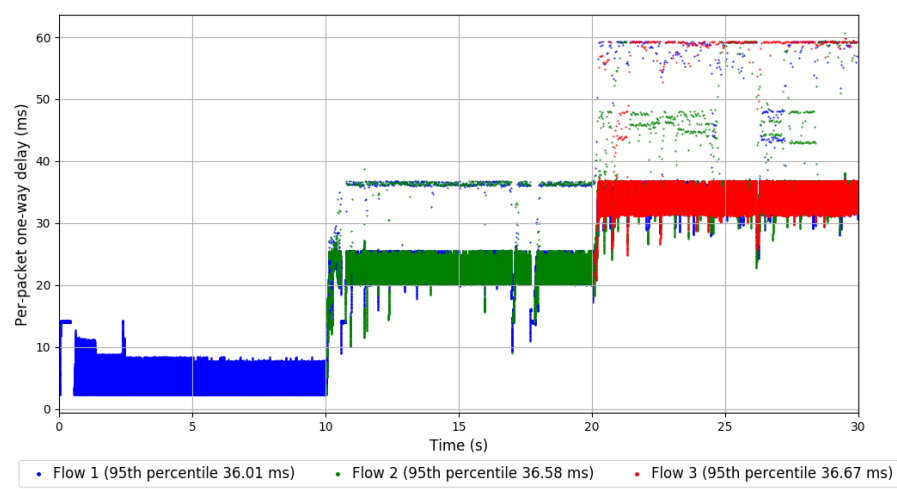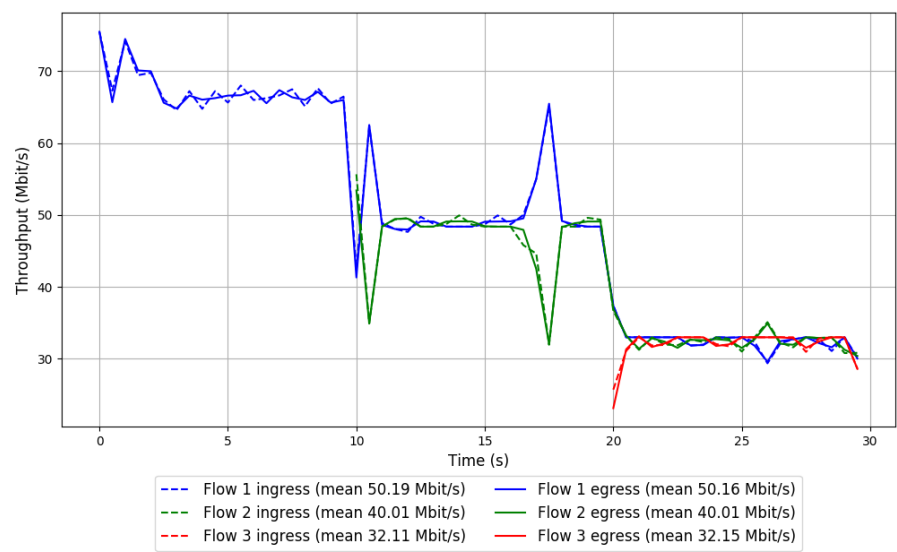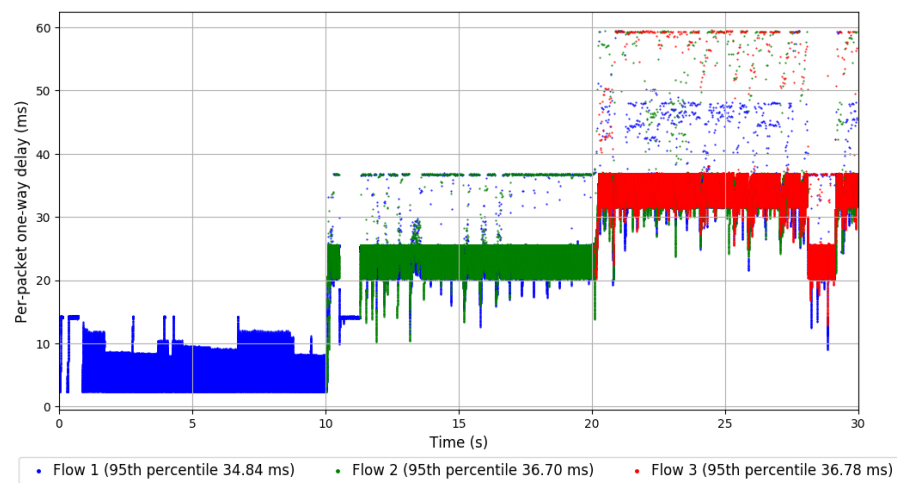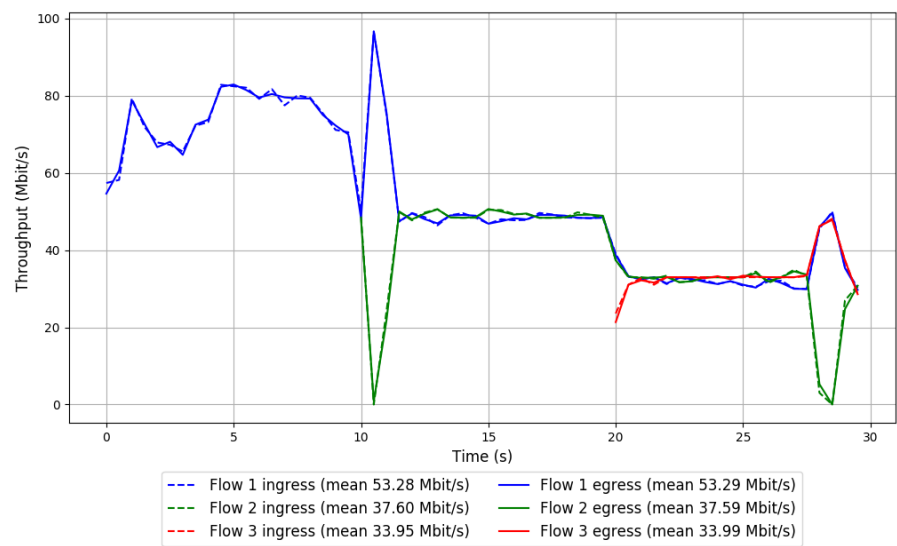
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 58.64 Mbit/s)   Flow 1 egress (mean 58.60 Mbit/s)
Flow 2 ingress (mean 40.78 Mbit/s)   Flow 2 egress (mean 40.76 Mbit/s)
Flow 3 ingress (mean 33.54 Mbit/s)   Flow 3 egress (mean 33.59 Mbit/s)

Flow 1 (95th percentile 34.55 ms)   Flow 2 (95th percentile 36.57 ms)   Flow 3 (95th percentile 36.72 ms)

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```
Run 7: Statistics of Verus

Start at: 2018-01-17 01:08:24
End at: 2018-01-17 01:08:54
Local clock offset: 0.33 ms
Remote clock offset: 0.184 ms


# Below is generated by plot.py at 2018-01-17 06:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 36.012 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 50.86 Mbit/s
95th percentile per-packet one-way delay: 34.716 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 39.54 Mbit/s
95th percentile per-packet one-way delay: 36.225 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 33.99 Mbit/s
95th percentile per-packet one-way delay: 36.639 ms
Loss rate: 0.33%
```

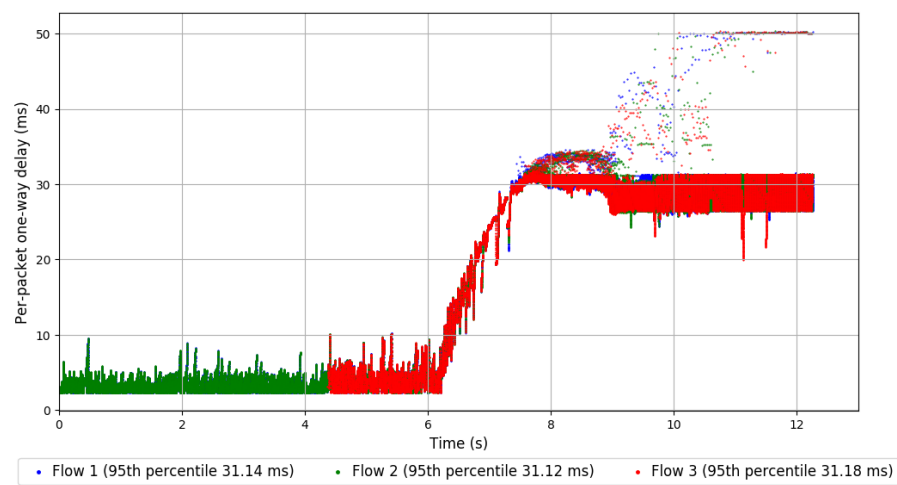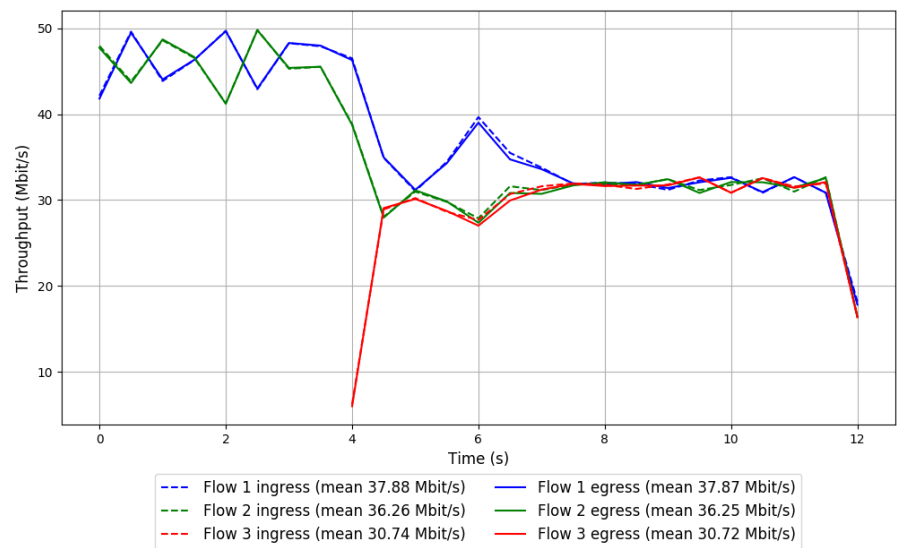## Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-01-17 01:29:00
End at: 2018-01-17 01:29:30
Local clock offset: 0.396 ms
Remote clock offset: 0.066 ms


# Below is generated by plot.py at 2018-01-17 06:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.83 Mbit/s
95th percentile per-packet one-way delay: 35.901 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 50.04 Mbit/s
95th percentile per-packet one-way delay: 34.994 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.52 Mbit/s
95th percentile per-packet one-way delay: 35.992 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 36.709 ms
Loss rate: 0.37%
```

Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2018-01-17 01:49:32
End at: 2018-01-17 01:50:02
Local clock offset: 0.418 ms
Remote clock offset: 0.077 ms


# Below is generated by plot.py at 2018-01-17 06:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.43 Mbit/s
95th percentile per-packet one-way delay: 36.565 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 50.16 Mbit/s
95th percentile per-packet one-way delay: 36.012 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 36.584 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 36.674 ms
Loss rate: 0.35%
```

Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 50.19 Mbit/s) --- Flow 1 egress (mean 50.16 Mbit/s)
Flow 2 ingress (mean 40.01 Mbit/s) --- Flow 2 egress (mean 40.01 Mbit/s)
Flow 3 ingress (mean 32.11 Mbit/s) --- Flow 3 egress (mean 32.15 Mbit/s)

Flow 1 (95th percentile 36.01 ms)   Flow 2 (95th percentile 36.58 ms)   Flow 3 (95th percentile 36.67 ms)

```
Run 10: Statistics of Verus

Start at: 2018-01-17 02:10:05
End at: 2018-01-17 02:10:35
Local clock offset: 0.457 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-01-17 06:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.53 Mbit/s
95th percentile per-packet one-way delay: 36.639 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 53.29 Mbit/s
95th percentile per-packet one-way delay: 34.843 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 36.702 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 33.99 Mbit/s
95th percentile per-packet one-way delay: 36.780 ms
Loss rate: 0.33%
```

Run 10: Report of Verus — Data Link

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```
Run 1: Statistics of Copa

Start at: 2018-01-16 23:10:54
End at: 2018-01-16 23:11:24
Local clock offset: -0.005 ms
Remote clock offset: -0.359 ms
```

Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 37.88 Mbit/s) --- Flow 1 egress (mean 37.87 Mbit/s)
Flow 2 ingress (mean 36.26 Mbit/s) --- Flow 2 egress (mean 36.25 Mbit/s)
Flow 3 ingress (mean 30.74 Mbit/s) --- Flow 3 egress (mean 30.72 Mbit/s)

Flow 1 (95th percentile 31.14 ms)   Flow 2 (95th percentile 31.12 ms)   Flow 3 (95th percentile 31.18 ms)
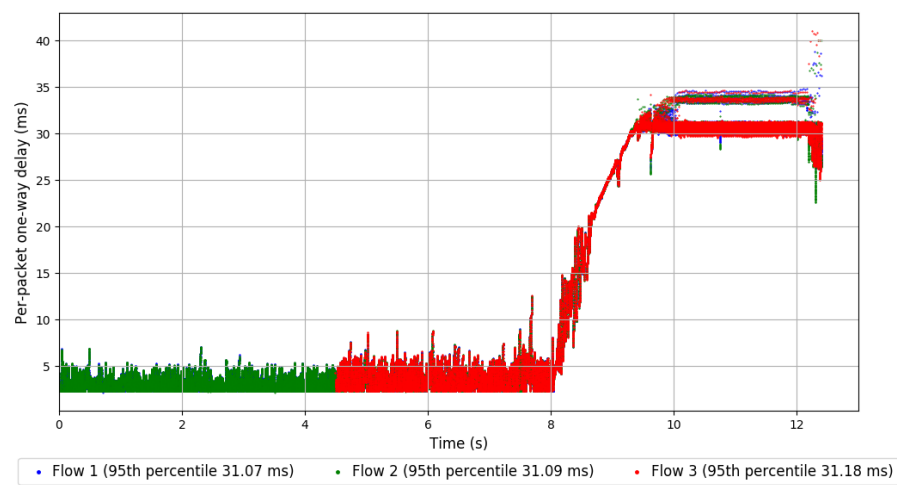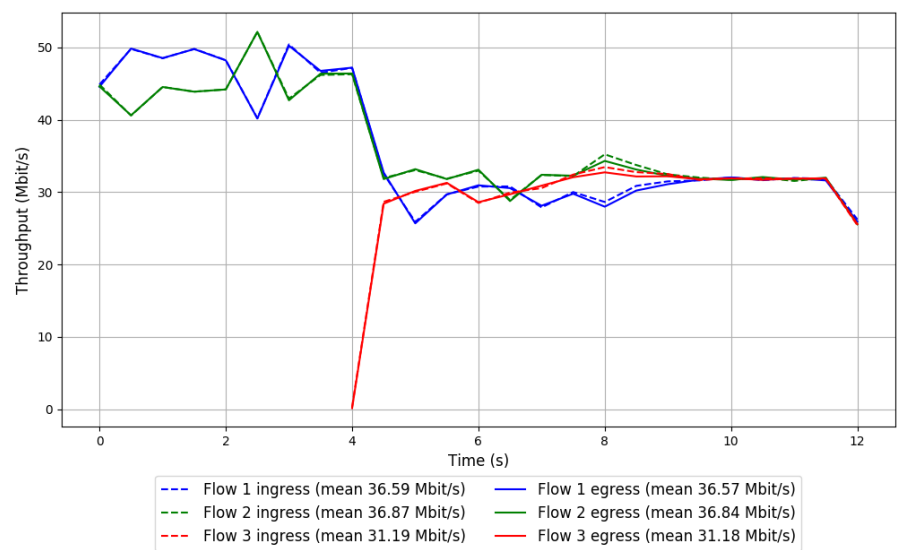
```
Run 2: Statistics of Copa

Start at: 2018-01-16 23:31:30
End at: 2018-01-16 23:32:00
Local clock offset: 0.045 ms
Remote clock offset: -0.1 ms
```

Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 36.44 Mbit/s) --- Flow 1 egress (mean 36.39 Mbit/s)
Flow 2 ingress (mean 33.65 Mbit/s) --- Flow 2 egress (mean 33.61 Mbit/s)
Flow 3 ingress (mean 30.76 Mbit/s) --- Flow 3 egress (mean 30.68 Mbit/s)

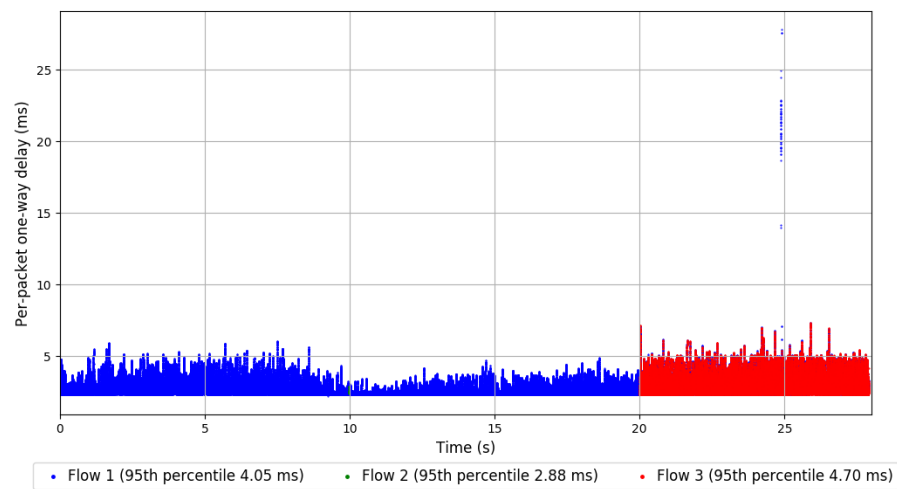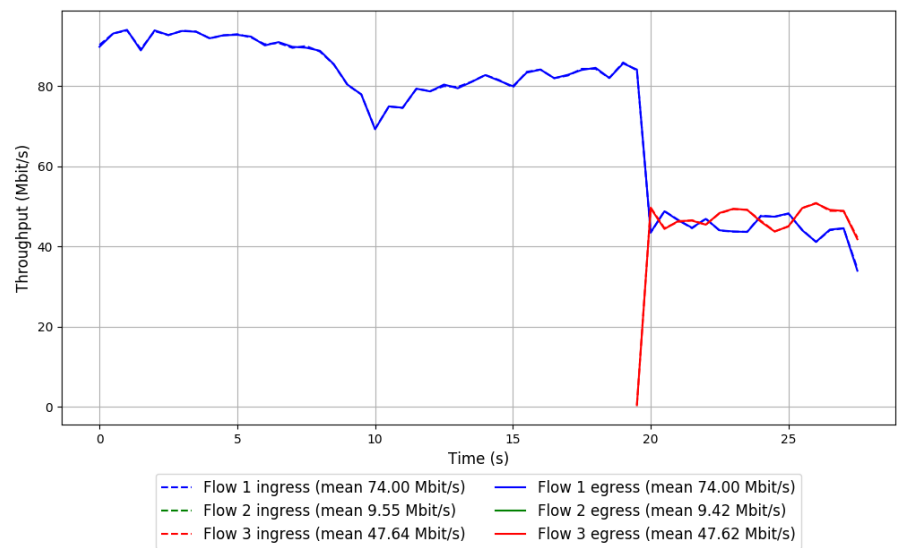Flow 1 (95th percentile 29.85 ms)   Flow 2 (95th percentile 29.92 ms)   Flow 3 (95th percentile 30.44 ms)

```
Run 3: Statistics of Copa

Start at: 2018-01-16 23:52:05
End at: 2018-01-16 23:52:35
Local clock offset: 0.105 ms
Remote clock offset: 0.237 ms
```

Run 3: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 44.84 Mbit/s) ——— Flow 1 egress (mean 44.81 Mbit/s)
- - - - Flow 2 ingress (mean 45.55 Mbit/s) ——— Flow 2 egress (mean 45.51 Mbit/s)
- - - - Flow 3 ingress (mean 5.20 Mbit/s) ——— Flow 3 egress (mean 5.21 Mbit/s)

- Flow 1 (95th percentile 22.71 ms)   • Flow 2 (95th percentile 22.73 ms)   • Flow 3 (95th percentile 22.83 ms)

```
Run 4: Statistics of Copa

Start at: 2018-01-17 00:12:34
End at: 2018-01-17 00:13:04
Local clock offset: 0.129 ms
Remote clock offset: 0.337 ms
```

Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-01-17 00:33:07
End at: 2018-01-17 00:33:37
Local clock offset: 0.207 ms
Remote clock offset: 0.364 ms
```

Run 5: Report of Copa — Data Link

- - - Flow 1 ingress (mean 38.96 Mbit/s) ——— Flow 1 egress (mean 38.96 Mbit/s)
- - - Flow 2 ingress (mean 37.67 Mbit/s) ——— Flow 2 egress (mean 37.60 Mbit/s)
- - - Flow 3 ingress (mean 32.33 Mbit/s) ——— Flow 3 egress (mean 32.31 Mbit/s)

• Flow 1 (95th percentile 31.10 ms)　　• Flow 2 (95th percentile 31.10 ms)　　• Flow 3 (95th percentile 31.22 ms)

```
Run 6: Statistics of Copa

Start at: 2018-01-17 00:53:40
End at: 2018-01-17 00:54:10
Local clock offset: 0.274 ms
Remote clock offset: 0.279 ms
```

Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2018-01-17 01:14:11
End at: 2018-01-17 01:14:41
Local clock offset: 0.343 ms
Remote clock offset: 0.148 ms
```

Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2018-01-17 01:34:46
End at: 2018-01-17 01:35:16
Local clock offset: 0.407 ms
Remote clock offset: 0.103 ms
```

Run 8: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 34.73 Mbit/s)   —— Flow 1 egress (mean 34.64 Mbit/s)
- - - - Flow 2 ingress (mean 37.18 Mbit/s)   —— Flow 2 egress (mean 37.17 Mbit/s)
- - - - Flow 3 ingress (mean 32.29 Mbit/s)   —— Flow 3 egress (mean 32.27 Mbit/s)

- Flow 1 (95th percentile 30.10 ms)   • Flow 2 (95th percentile 29.85 ms)   • Flow 3 (95th percentile 30.62 ms)

```
Run 9: Statistics of Copa

Start at: 2018-01-17 01:55:20
End at: 2018-01-17 01:55:50
Local clock offset: 0.426 ms
Remote clock offset: 0.054 ms
```

Run 9: Report of Copa — Data Link

Flow 1 ingress (mean 36.59 Mbit/s)   Flow 1 egress (mean 36.57 Mbit/s)
Flow 2 ingress (mean 36.87 Mbit/s)   Flow 2 egress (mean 36.84 Mbit/s)
Flow 3 ingress (mean 31.19 Mbit/s)   Flow 3 egress (mean 31.18 Mbit/s)

Flow 1 (95th percentile 31.07 ms)   Flow 2 (95th percentile 31.09 ms)   Flow 3 (95th percentile 31.18 ms)
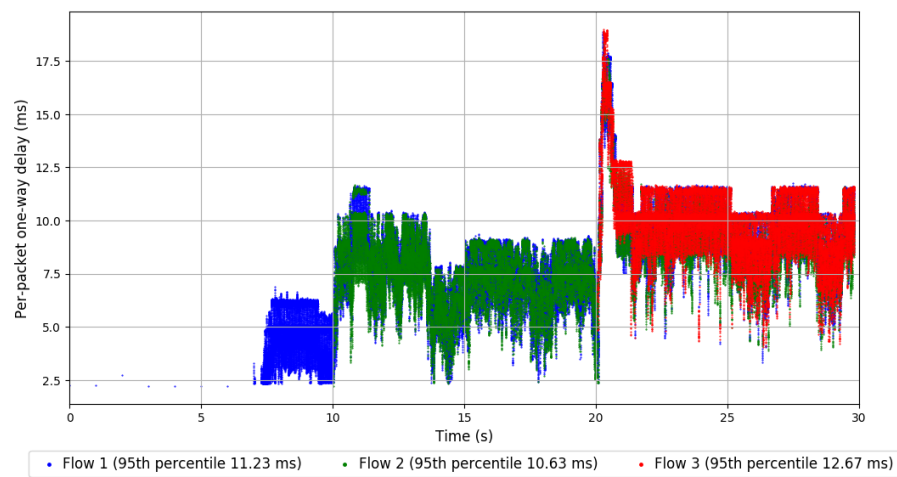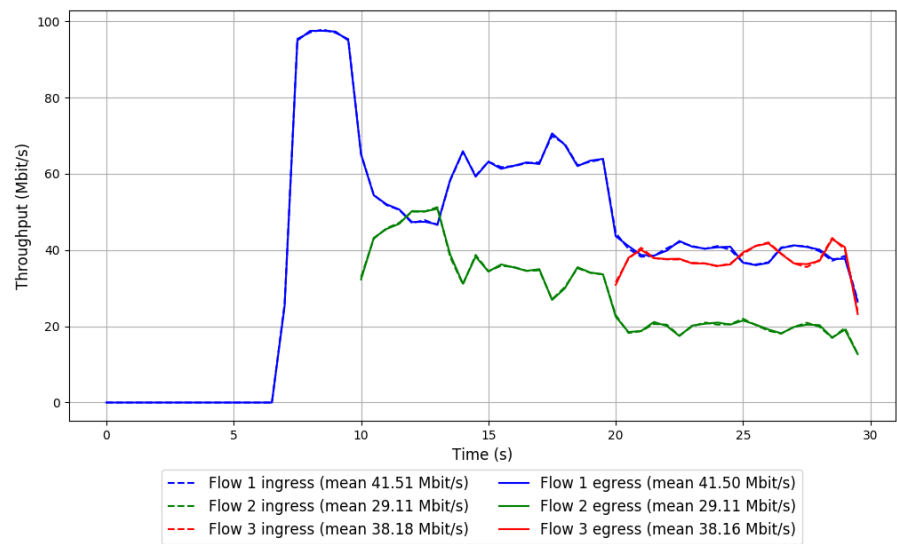
```
Run 10: Statistics of Copa

Start at: 2018-01-17 02:15:52
End at: 2018-01-17 02:16:22
Local clock offset: 0.452 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.53 Mbit/s
95th percentile per-packet one-way delay: 4.235 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 74.00 Mbit/s
95th percentile per-packet one-way delay: 4.051 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 2.883 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.62 Mbit/s
95th percentile per-packet one-way delay: 4.703 ms
Loss rate: 0.09%
```

Run 10: Report of Copa — Data Link

Flow 1 ingress (mean 74.00 Mbit/s) --- Flow 1 egress (mean 74.00 Mbit/s)
Flow 2 ingress (mean 9.55 Mbit/s) --- Flow 2 egress (mean 9.42 Mbit/s)
Flow 3 ingress (mean 47.64 Mbit/s) --- Flow 3 egress (mean 47.62 Mbit/s)

Flow 1 (95th percentile 4.05 ms)   Flow 2 (95th percentile 2.88 ms)   Flow 3 (95th percentile 4.70 ms)

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```
Run 1: Statistics of FillP

Start at: 2018-01-16 23:12:02
End at: 2018-01-16 23:12:32
Local clock offset: -0.005 ms
Remote clock offset: -0.398 ms
```

Run 1: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 2: Statistics of FillP

Start at: 2018-01-16 23:32:37
End at: 2018-01-16 23:33:07
Local clock offset: 0.055 ms
Remote clock offset: -0.041 ms
```

Run 2: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 3: Statistics of FillP

Start at: 2018-01-16 23:53:12
End at: 2018-01-16 23:53:42
Local clock offset: 0.11 ms
Remote clock offset: 0.188 ms
```

Run 3: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 4: Statistics of FillP

Start at: 2018-01-17 00:13:42
End at: 2018-01-17 00:14:12
Local clock offset: 0.152 ms
Remote clock offset: 0.306 ms
```

Run 4: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 5: Statistics of FillP

Start at: 2018-01-17 00:34:15
End at: 2018-01-17 00:34:45
Local clock offset: 0.215 ms
Remote clock offset: 0.415 ms
```
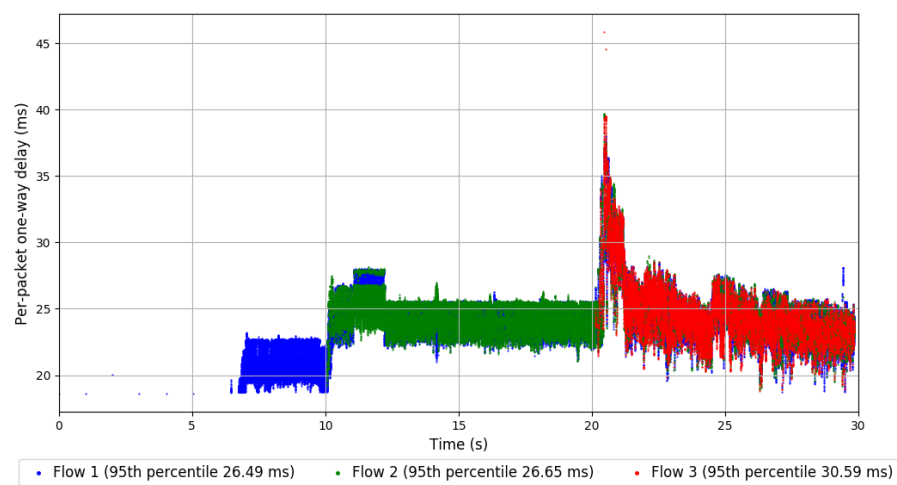
Run 5: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 6: Statistics of FillP

Start at: 2018-01-17 00:54:47
End at: 2018-01-17 00:55:17
Local clock offset: 0.286 ms
Remote clock offset: 0.297 ms
```

Run 6: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 7: Statistics of FillP

Start at: 2018-01-17 01:15:19
End at: 2018-01-17 01:15:49
Local clock offset: 0.334 ms
Remote clock offset: 0.08 ms
```

Run 7: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 8: Statistics of FillP

Start at: 2018-01-17 01:35:53
End at: 2018-01-17 01:36:23
Local clock offset: 0.41 ms
Remote clock offset: 0.096 ms
```

Run 8: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 9: Statistics of FillP

Start at: 2018-01-17 01:56:27
End at: 2018-01-17 01:56:57
Local clock offset: 0.381 ms
Remote clock offset: 0.063 ms
```

Run 9: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 10: Statistics of FillP

Start at: 2018-01-17 02:17:03
End at: 2018-01-17 02:17:33
Local clock offset: 0.397 ms
Remote clock offset: -0.045 ms
```

Run 10: Report of FillP — Data Link

Figure is missing

Figure is missing

```
Run 1: Statistics of Indigo

Start at: 2018-01-16 23:06:21
End at: 2018-01-16 23:06:51
Local clock offset: -0.046 ms
Remote clock offset: -0.497 ms
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-01-16 23:26:54
End at: 2018-01-16 23:27:24
Local clock offset: 0.048 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.30 Mbit/s
95th percentile per-packet one-way delay: 11.383 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 41.50 Mbit/s
95th percentile per-packet one-way delay: 11.230 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 10.628 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 38.16 Mbit/s
95th percentile per-packet one-way delay: 12.673 ms
Loss rate: 0.13%
```
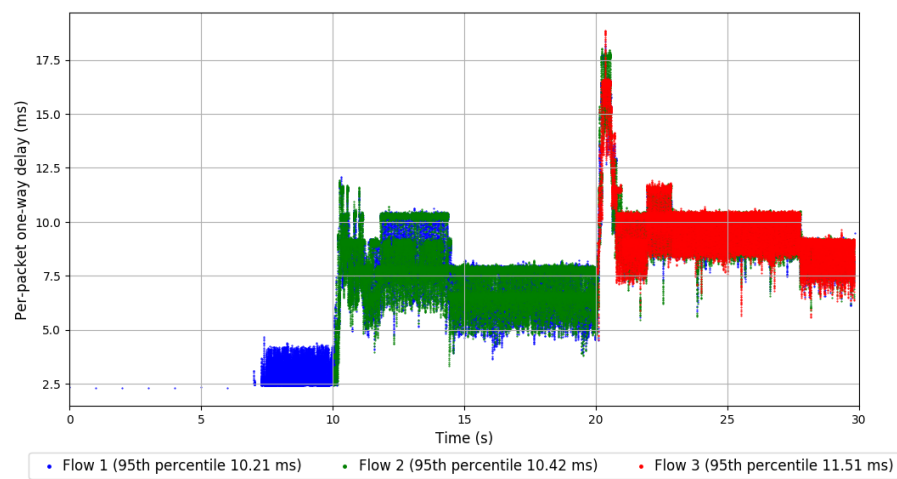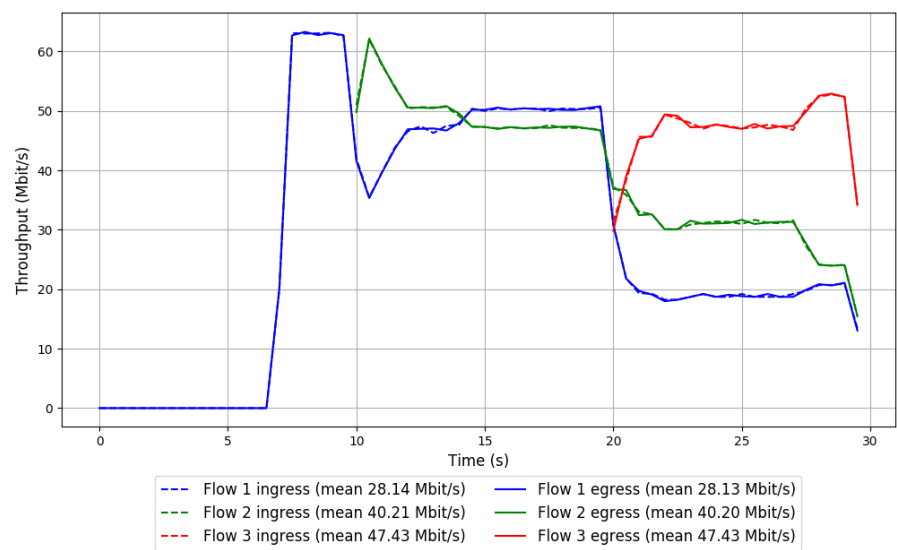
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-01-16 23:47:29
End at: 2018-01-16 23:47:59
Local clock offset: 0.095 ms
Remote clock offset: 0.18 ms


# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.59 Mbit/s
95th percentile per-packet one-way delay: 10.218 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 9.82 Mbit/s
95th percentile per-packet one-way delay: 8.585 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 73.60 Mbit/s
95th percentile per-packet one-way delay: 9.719 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 30.08 Mbit/s
95th percentile per-packet one-way delay: 12.602 ms
Loss rate: 0.08%
```
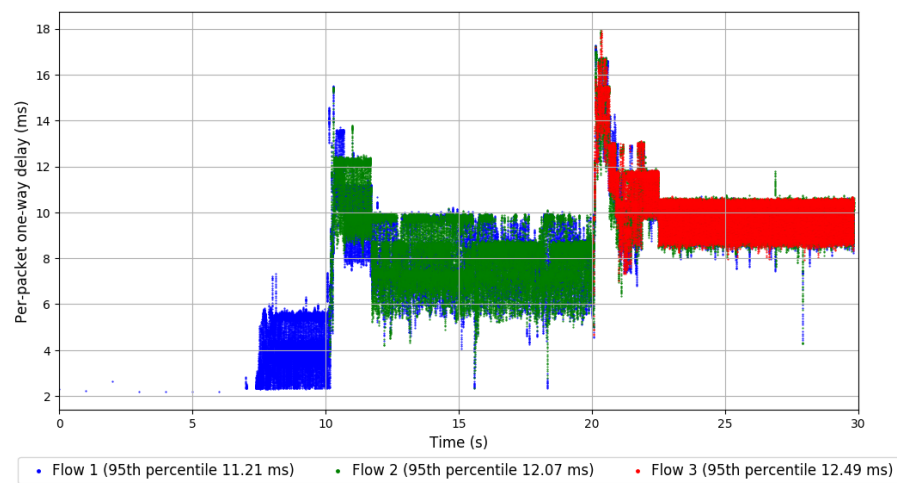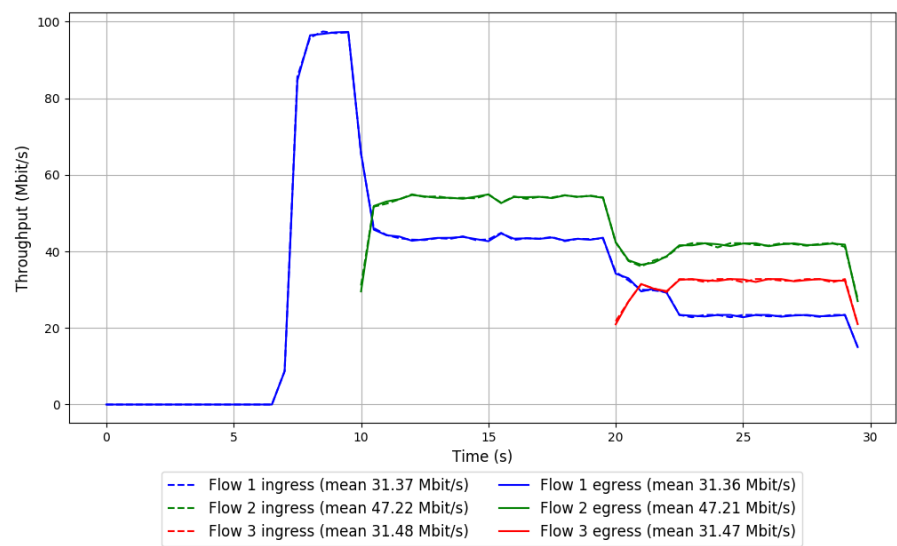
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-01-17 00:07:58
End at: 2018-01-17 00:08:28
Local clock offset: 0.139 ms
Remote clock offset: -16.094 ms


# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.20 Mbit/s
95th percentile per-packet one-way delay: 26.904 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 42.36 Mbit/s
95th percentile per-packet one-way delay: 26.494 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 26.646 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 26.50 Mbit/s
95th percentile per-packet one-way delay: 30.595 ms
Loss rate: 0.06%
```
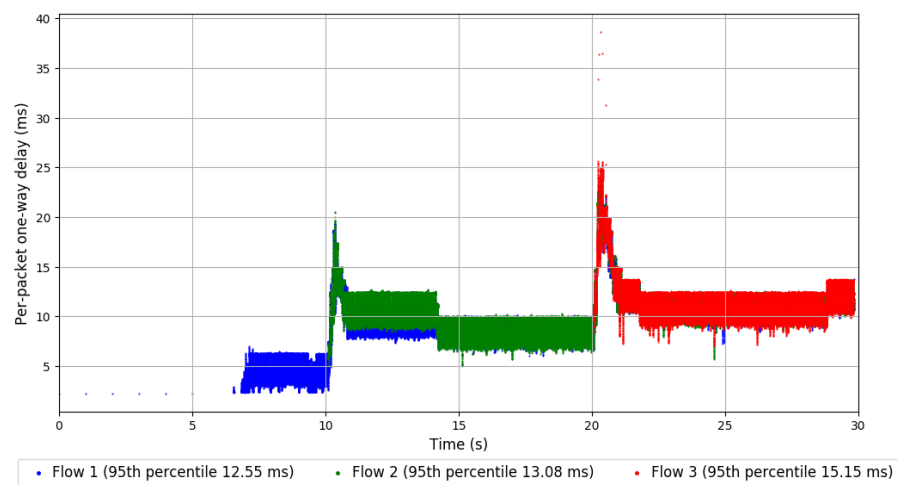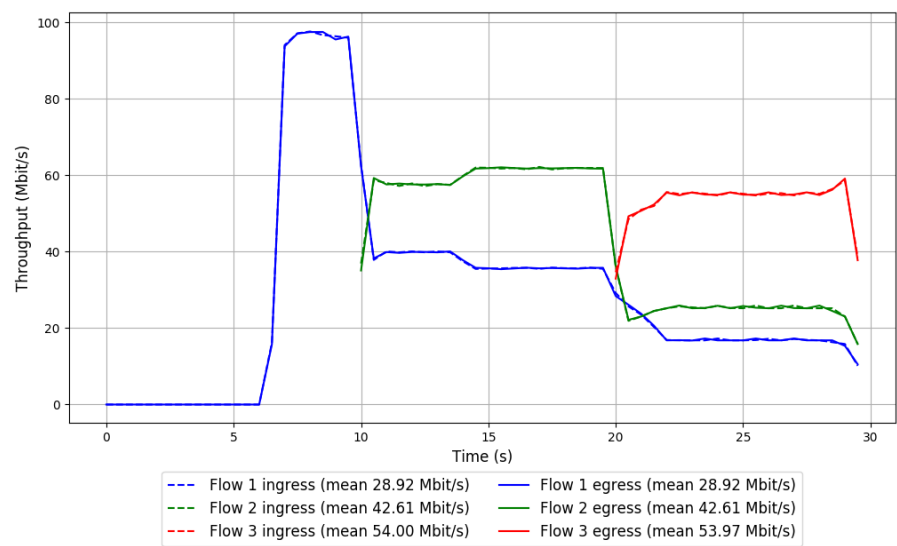
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-01-17 00:28:30
End at: 2018-01-17 00:29:00
Local clock offset: 0.207 ms
Remote clock offset: 0.388 ms

# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.33 Mbit/s
95th percentile per-packet one-way delay: 10.423 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 28.13 Mbit/s
95th percentile per-packet one-way delay: 10.208 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.20 Mbit/s
95th percentile per-packet one-way delay: 10.424 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 47.43 Mbit/s
95th percentile per-packet one-way delay: 11.505 ms
Loss rate: 0.09%
```
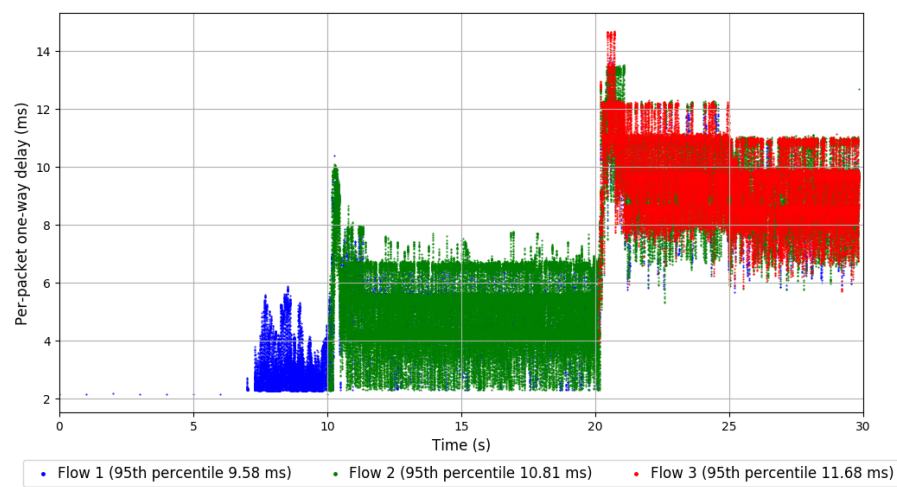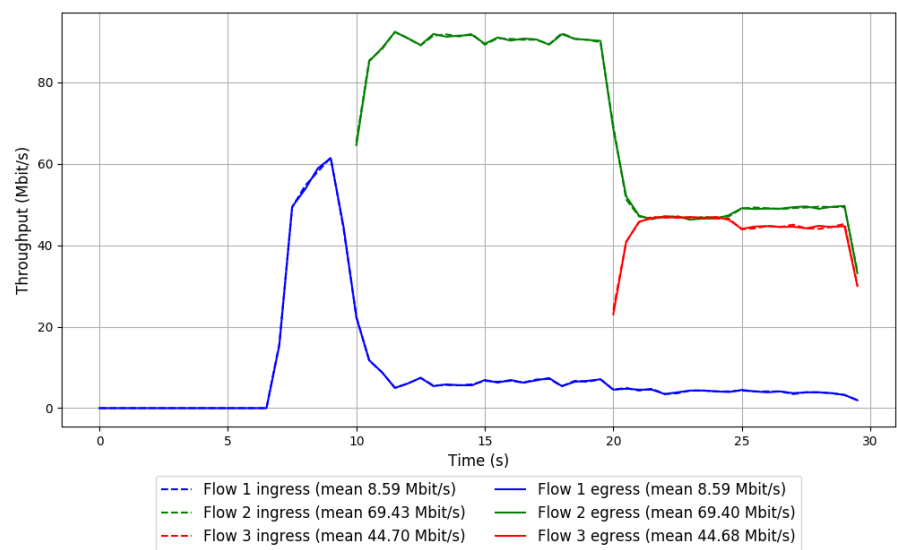
Run 5: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 28.14 Mbit/s) —— Flow 1 egress (mean 28.13 Mbit/s)
- - - Flow 2 ingress (mean 40.21 Mbit/s) —— Flow 2 egress (mean 40.20 Mbit/s)
- - - Flow 3 ingress (mean 47.43 Mbit/s) —— Flow 3 egress (mean 47.43 Mbit/s)

• Flow 1 (95th percentile 10.21 ms)   • Flow 2 (95th percentile 10.42 ms)   • Flow 3 (95th percentile 11.51 ms)

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```
Run 6: Statistics of Indigo

Start at: 2018-01-17 00:49:04
End at: 2018-01-17 00:49:34
Local clock offset: 0.241 ms
Remote clock offset: 0.294 ms

# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.84 Mbit/s
95th percentile per-packet one-way delay: 11.744 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 11.213 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 47.21 Mbit/s
95th percentile per-packet one-way delay: 12.067 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 31.47 Mbit/s
95th percentile per-packet one-way delay: 12.494 ms
Loss rate: 0.14%
```
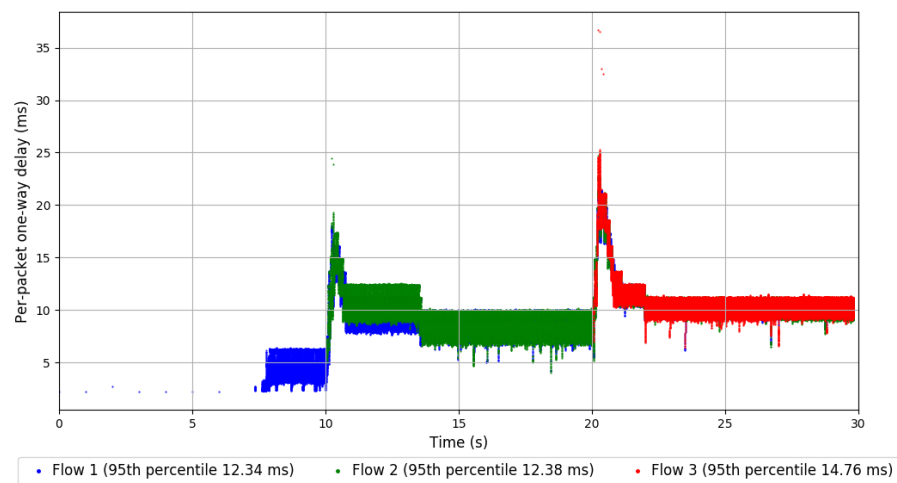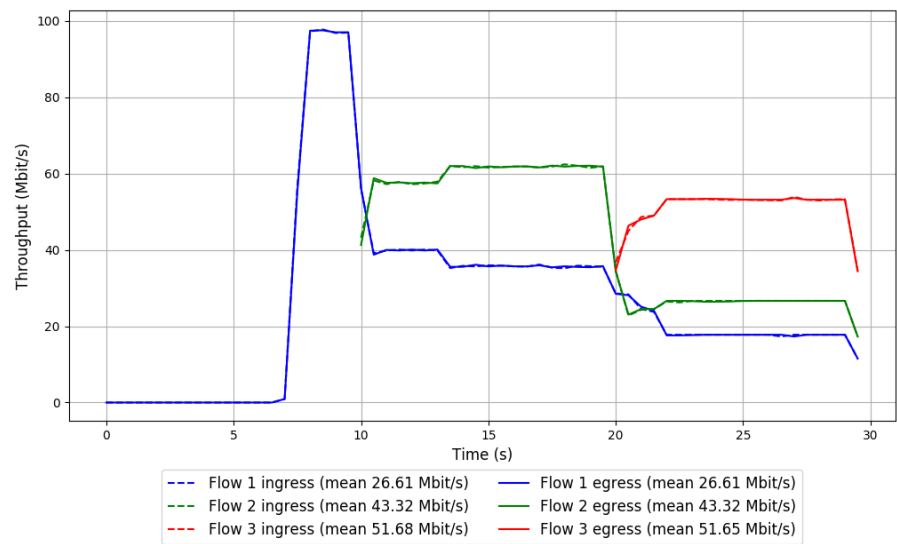
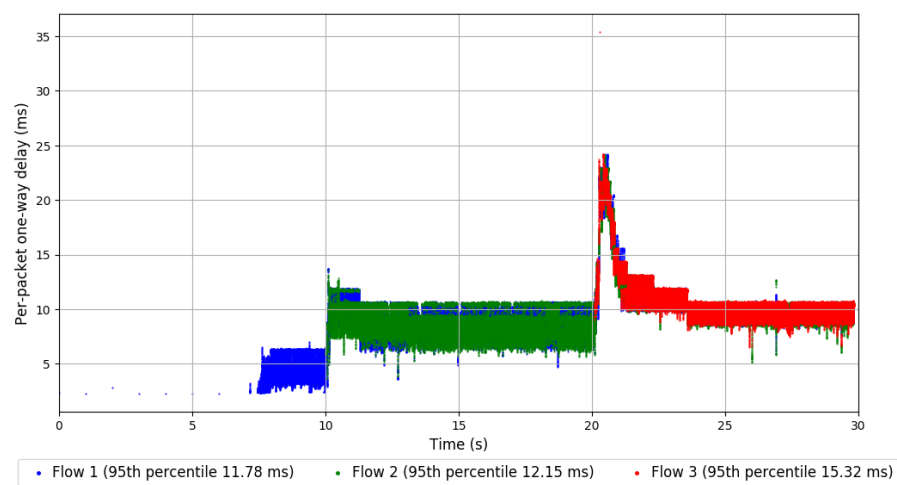# Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2018-01-17 01:09:33
End at: 2018-01-17 01:10:03
Local clock offset: 0.34 ms
Remote clock offset: 0.131 ms


# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.78 Mbit/s
95th percentile per-packet one-way delay: 13.499 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 28.92 Mbit/s
95th percentile per-packet one-way delay: 12.550 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 13.081 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 53.97 Mbit/s
95th percentile per-packet one-way delay: 15.146 ms
Loss rate: 0.18%
```
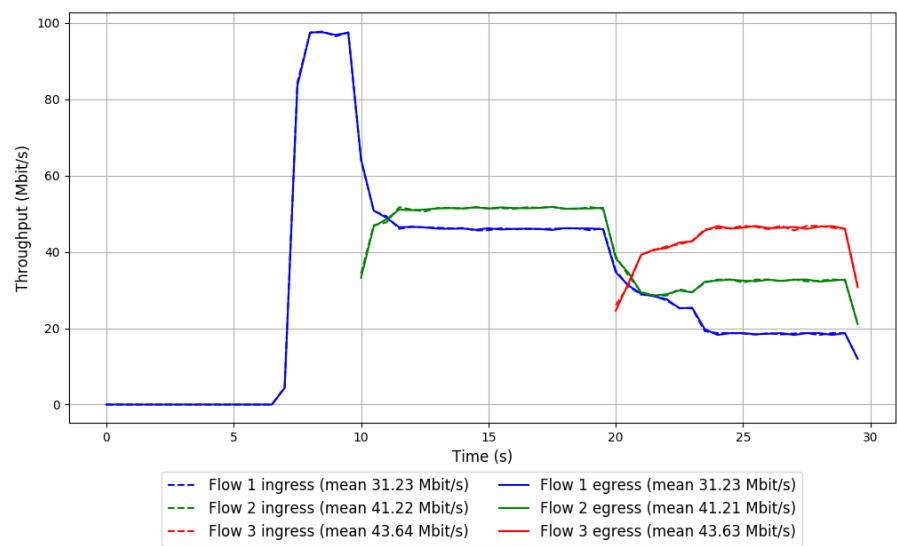
Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2018-01-17 01:30:09
End at: 2018-01-17 01:30:39
Local clock offset: 0.33 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2018-01-17 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.22 Mbit/s
95th percentile per-packet one-way delay: 10.925 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 9.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.40 Mbit/s
95th percentile per-packet one-way delay: 10.811 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 44.68 Mbit/s
95th percentile per-packet one-way delay: 11.683 ms
Loss rate: 0.12%
```
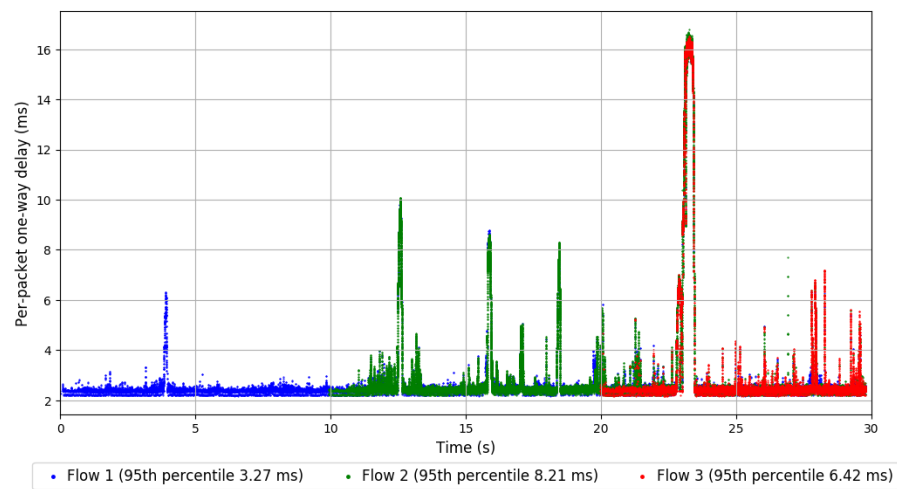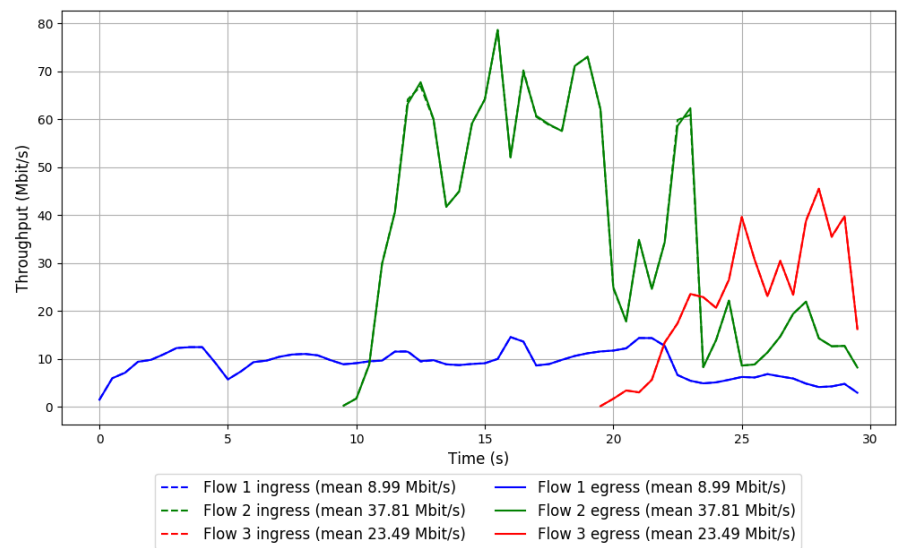
Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2018-01-17 01:50:42
End at: 2018-01-17 01:51:12
Local clock offset: 0.424 ms
Remote clock offset: 0.058 ms


# Below is generated by plot.py at 2018-01-17 06:06:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.29 Mbit/s
95th percentile per-packet one-way delay: 12.675 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 26.61 Mbit/s
95th percentile per-packet one-way delay: 12.335 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 43.32 Mbit/s
95th percentile per-packet one-way delay: 12.384 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 51.65 Mbit/s
95th percentile per-packet one-way delay: 14.763 ms
Loss rate: 0.10%
```
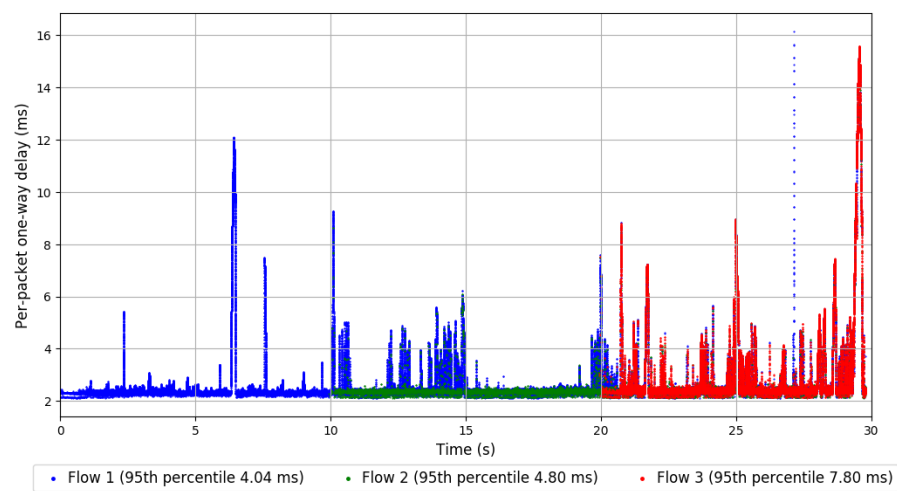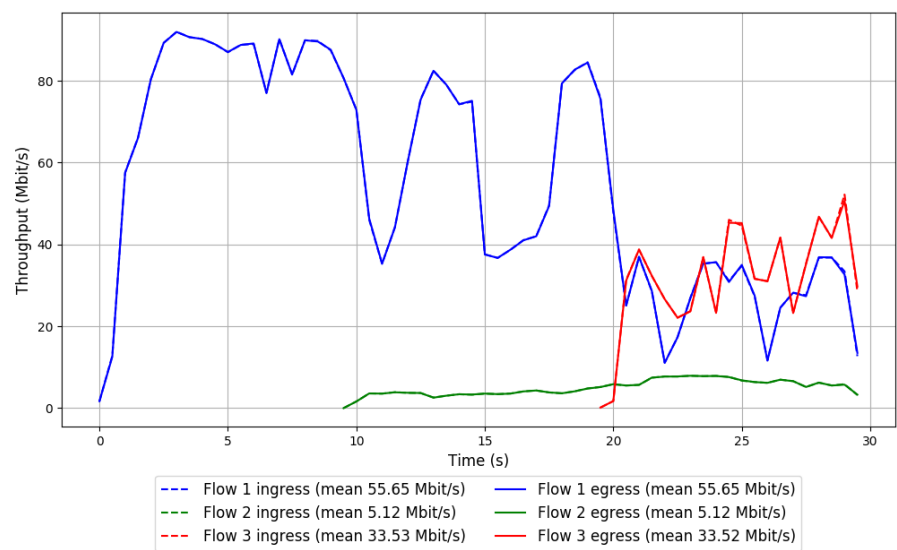
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2018-01-17 02:11:15
End at: 2018-01-17 02:11:45
Local clock offset: 0.459 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2018-01-17 06:06:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.83 Mbit/s
95th percentile per-packet one-way delay: 12.776 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 31.23 Mbit/s
95th percentile per-packet one-way delay: 11.783 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 41.21 Mbit/s
95th percentile per-packet one-way delay: 12.147 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 43.63 Mbit/s
95th percentile per-packet one-way delay: 15.319 ms
Loss rate: 0.14%
```

Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of Vivace-latency

Start at: 2018-01-16 23:08:36
End at: 2018-01-16 23:09:06
Local clock offset: 0.003 ms
Remote clock offset: -0.402 ms


# Below is generated by plot.py at 2018-01-17 06:06:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.95 Mbit/s
95th percentile per-packet one-way delay: 7.359 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 3.273 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 37.81 Mbit/s
95th percentile per-packet one-way delay: 8.206 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 23.49 Mbit/s
95th percentile per-packet one-way delay: 6.415 ms
Loss rate: 0.04%
```
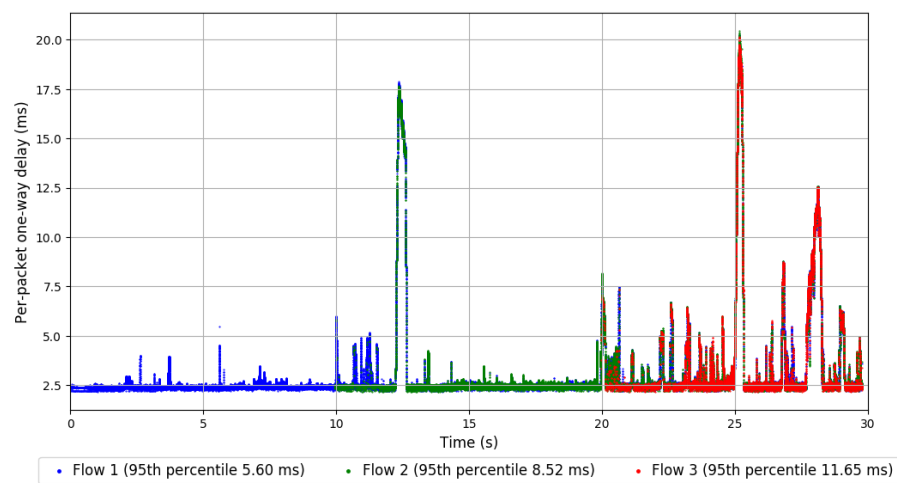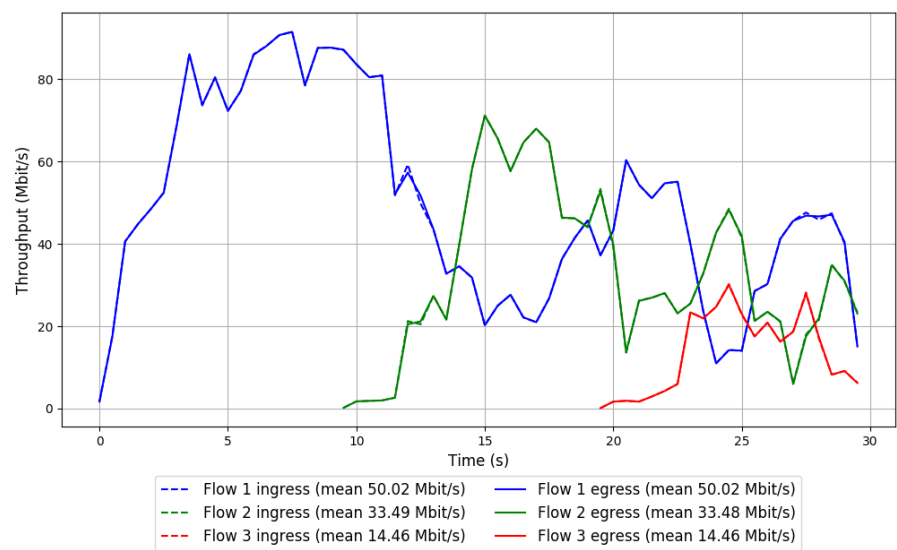
Run 1: Report of Vivace-latency — Data Link

```
Run 2: Statistics of Vivace-latency

Start at: 2018-01-16 23:29:10
End at: 2018-01-16 23:29:40
Local clock offset: 0.001 ms
Remote clock offset: -0.089 ms


# Below is generated by plot.py at 2018-01-17 06:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.13 Mbit/s
95th percentile per-packet one-way delay: 4.734 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 4.038 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.12 Mbit/s
95th percentile per-packet one-way delay: 4.800 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 33.52 Mbit/s
95th percentile per-packet one-way delay: 7.796 ms
Loss rate: 0.07%
```
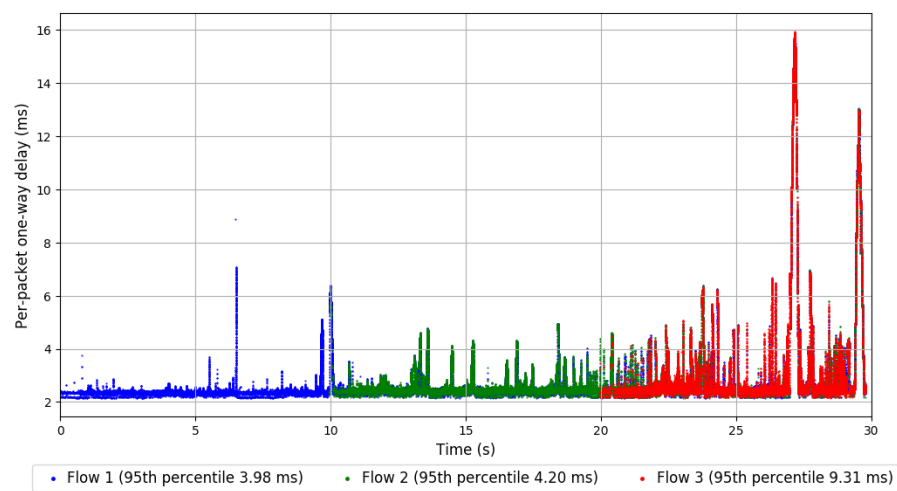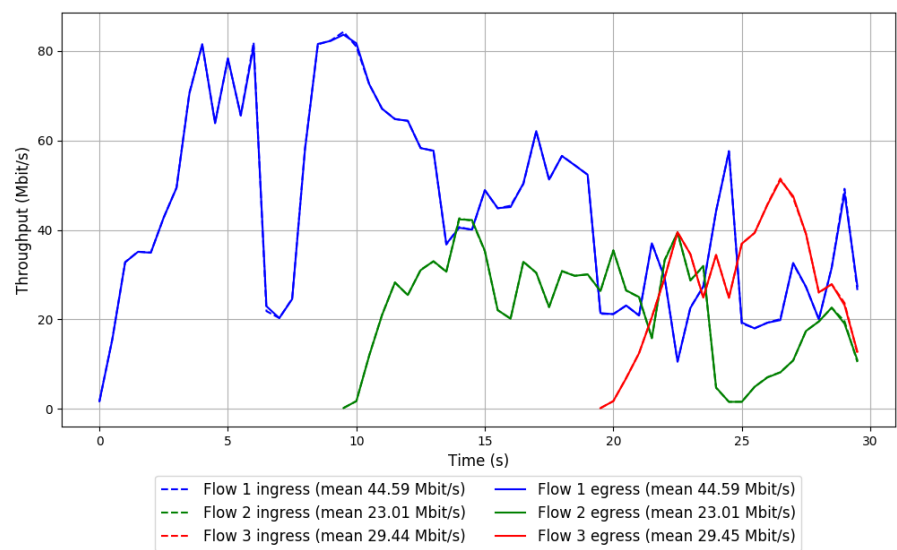
Run 2: Report of Vivace-latency — Data Link

```
Run 3: Statistics of Vivace-latency

Start at: 2018-01-16 23:49:45
End at: 2018-01-16 23:50:15
Local clock offset: 0.102 ms
Remote clock offset: 0.2 ms


# Below is generated by plot.py at 2018-01-17 06:07:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.10 Mbit/s
95th percentile per-packet one-way delay: 7.160 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 5.603 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 33.48 Mbit/s
95th percentile per-packet one-way delay: 8.521 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 11.646 ms
Loss rate: 0.05%
```
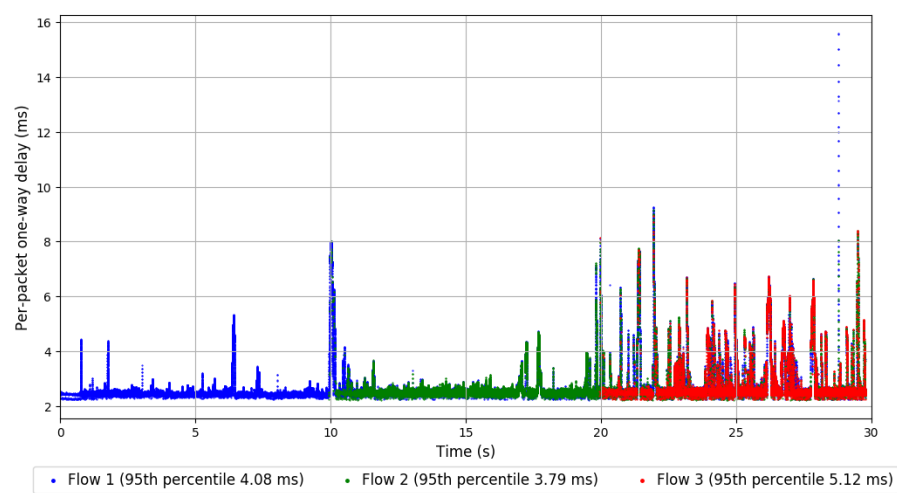
Run 3: Report of Vivace-latency — Data Link

```
Run 4: Statistics of Vivace-latency

Start at: 2018-01-17 00:10:14
End at: 2018-01-17 00:10:44
Local clock offset: 0.146 ms
Remote clock offset: 0.345 ms

# Below is generated by plot.py at 2018-01-17 06:07:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.65 Mbit/s
95th percentile per-packet one-way delay: 4.408 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 44.59 Mbit/s
95th percentile per-packet one-way delay: 3.977 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 23.01 Mbit/s
95th percentile per-packet one-way delay: 4.197 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 29.45 Mbit/s
95th percentile per-packet one-way delay: 9.307 ms
Loss rate: 0.03%
```
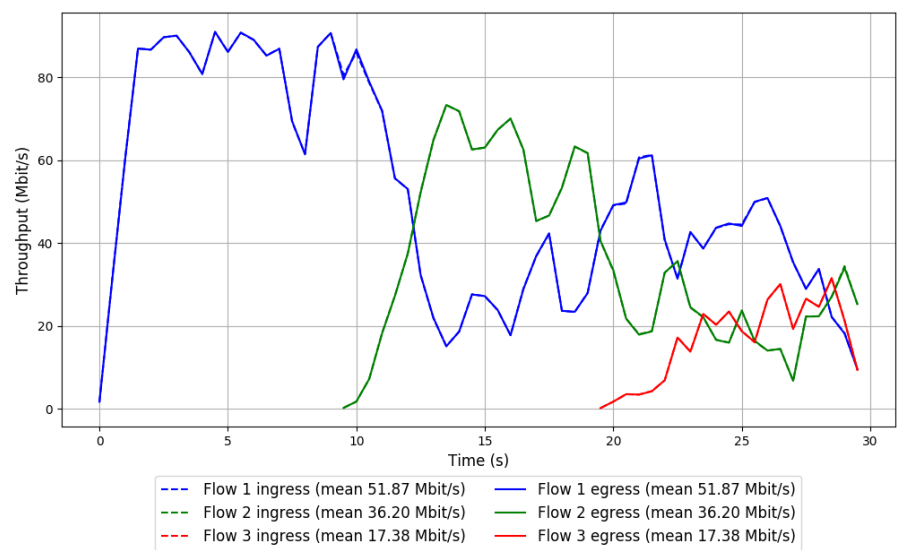
Run 4: Report of Vivace-latency — Data Link

```
Run 5: Statistics of Vivace-latency

Start at: 2018-01-17 00:30:46
End at: 2018-01-17 00:31:16
Local clock offset: 0.215 ms
Remote clock offset: 0.375 ms


# Below is generated by plot.py at 2018-01-17 06:07:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.75 Mbit/s
95th percentile per-packet one-way delay: 4.150 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 51.87 Mbit/s
95th percentile per-packet one-way delay: 4.077 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 36.20 Mbit/s
95th percentile per-packet one-way delay: 3.790 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 17.38 Mbit/s
95th percentile per-packet one-way delay: 5.125 ms
Loss rate: 0.05%
```
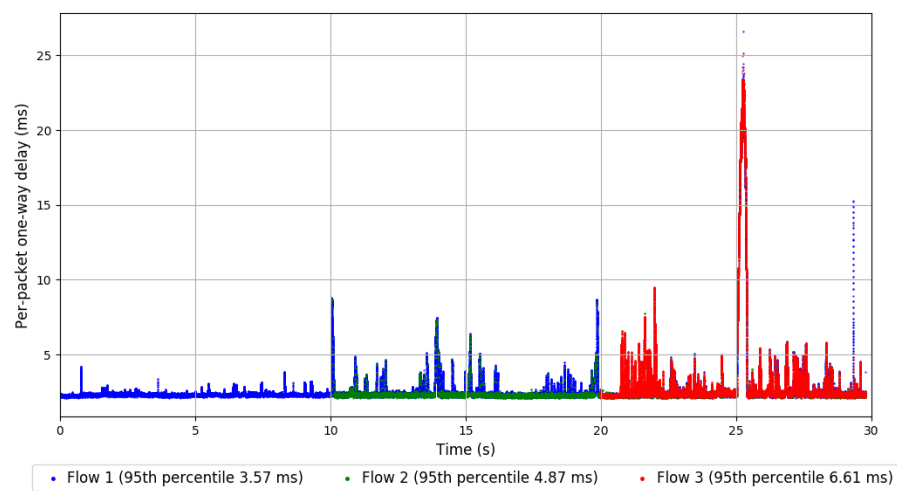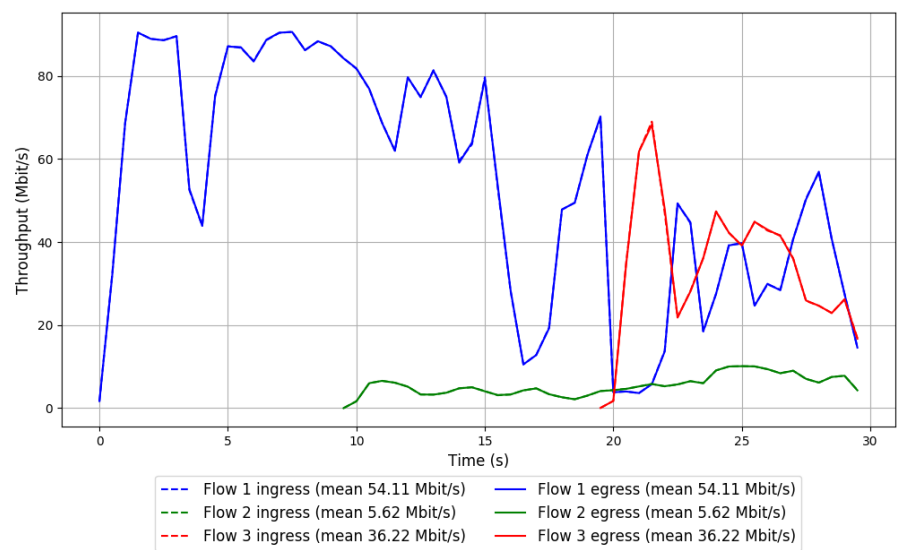
Run 5: Report of Vivace-latency — Data Link

```
Run 6: Statistics of Vivace-latency

Start at: 2018-01-17 00:51:20
End at: 2018-01-17 00:51:50
Local clock offset: 0.204 ms
Remote clock offset: 0.272 ms


# Below is generated by plot.py at 2018-01-17 06:07:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.78 Mbit/s
95th percentile per-packet one-way delay: 4.164 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.11 Mbit/s
95th percentile per-packet one-way delay: 3.572 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 4.873 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 6.614 ms
Loss rate: 0.04%
```
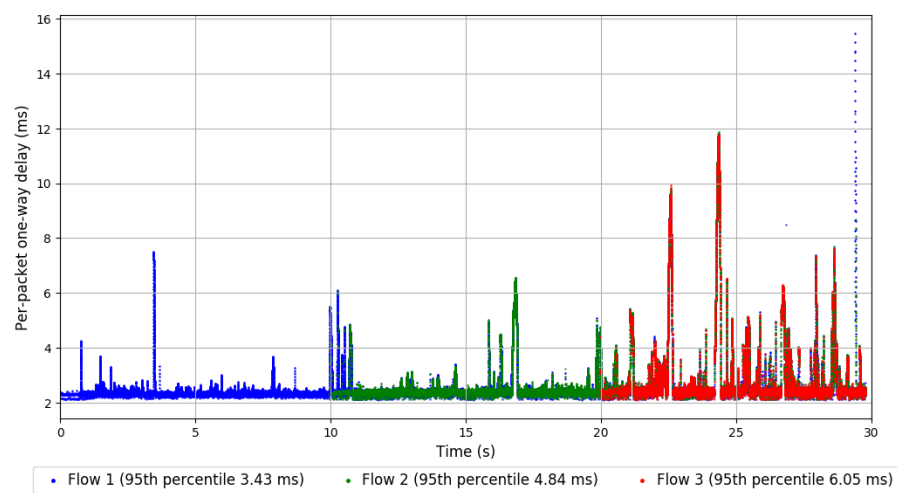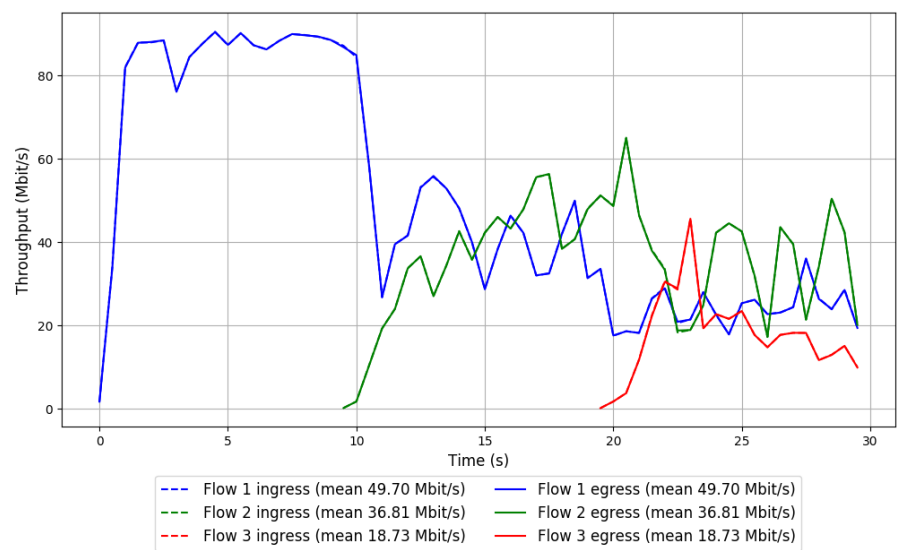
Run 6: Report of Vivace-latency — Data Link

```
Run 7: Statistics of Vivace-latency

Start at: 2018-01-17 01:11:49
End at: 2018-01-17 01:12:19
Local clock offset: 0.325 ms
Remote clock offset: 0.18 ms


# Below is generated by plot.py at 2018-01-17 06:08:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.40 Mbit/s
95th percentile per-packet one-way delay: 4.075 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.70 Mbit/s
95th percentile per-packet one-way delay: 3.426 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 36.81 Mbit/s
95th percentile per-packet one-way delay: 4.842 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 18.73 Mbit/s
95th percentile per-packet one-way delay: 6.050 ms
Loss rate: 0.05%
```
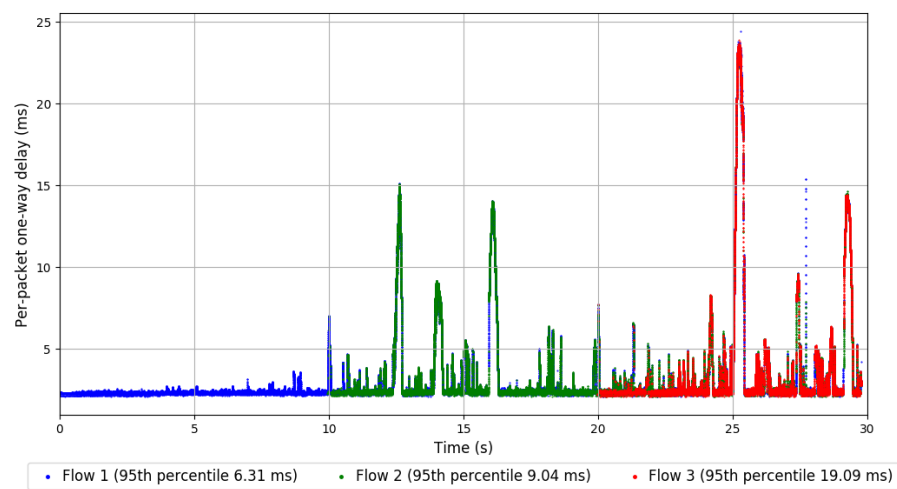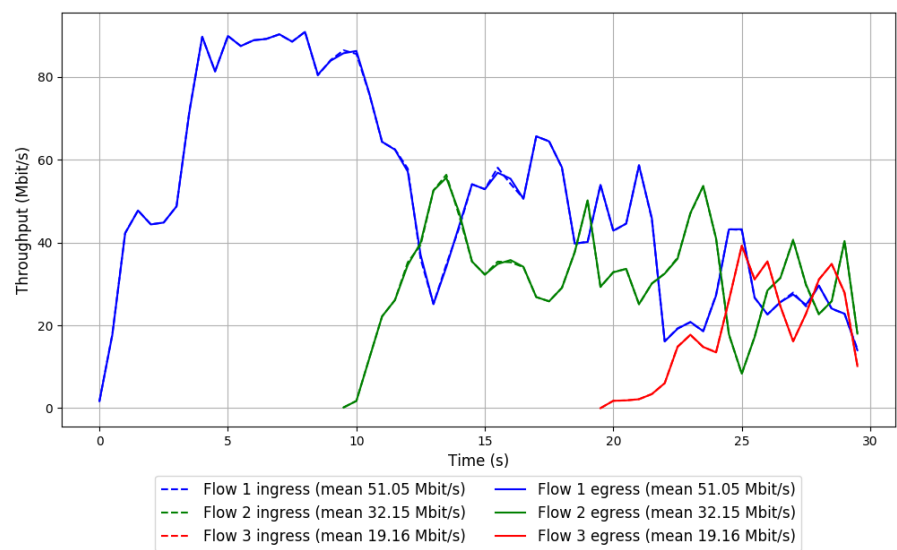
Run 7: Report of Vivace-latency — Data Link

```
Run 8: Statistics of Vivace-latency

Start at: 2018-01-17 01:32:25
End at: 2018-01-17 01:32:55
Local clock offset: 0.321 ms
Remote clock offset: 0.115 ms


# Below is generated by plot.py at 2018-01-17 06:08:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.76 Mbit/s
95th percentile per-packet one-way delay: 8.571 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 51.05 Mbit/s
95th percentile per-packet one-way delay: 6.312 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 9.040 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 19.16 Mbit/s
95th percentile per-packet one-way delay: 19.087 ms
Loss rate: 0.07%
```
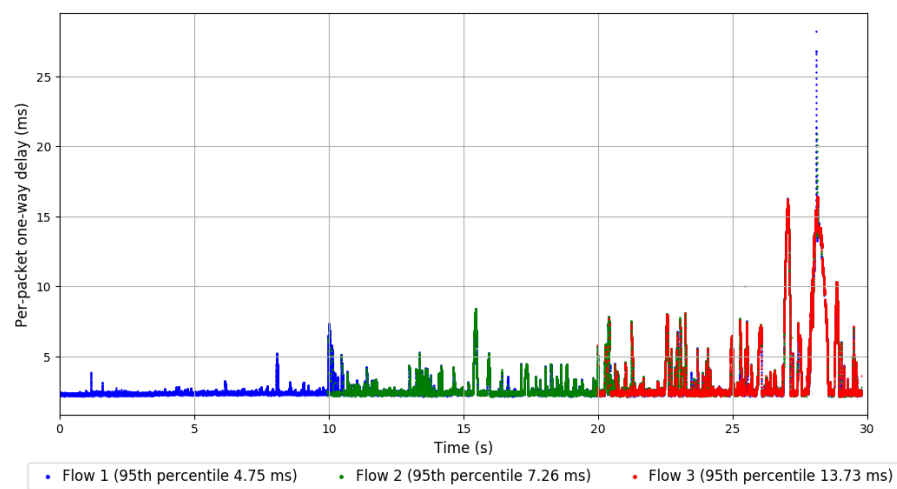
Run 8: Report of Vivace-latency — Data Link

```
Run 9: Statistics of Vivace-latency

Start at: 2018-01-17 01:52:57
End at: 2018-01-17 01:53:27
Local clock offset: 0.42 ms
Remote clock offset: 0.059 ms


# Below is generated by plot.py at 2018-01-17 06:08:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.46 Mbit/s
95th percentile per-packet one-way delay: 6.785 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 4.755 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.81 Mbit/s
95th percentile per-packet one-way delay: 7.263 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 20.73 Mbit/s
95th percentile per-packet one-way delay: 13.733 ms
Loss rate: 0.09%
```
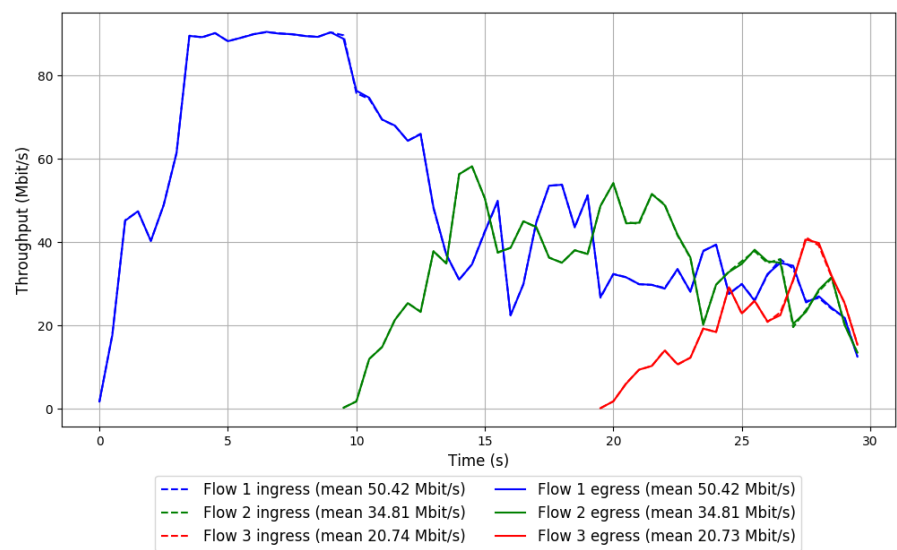
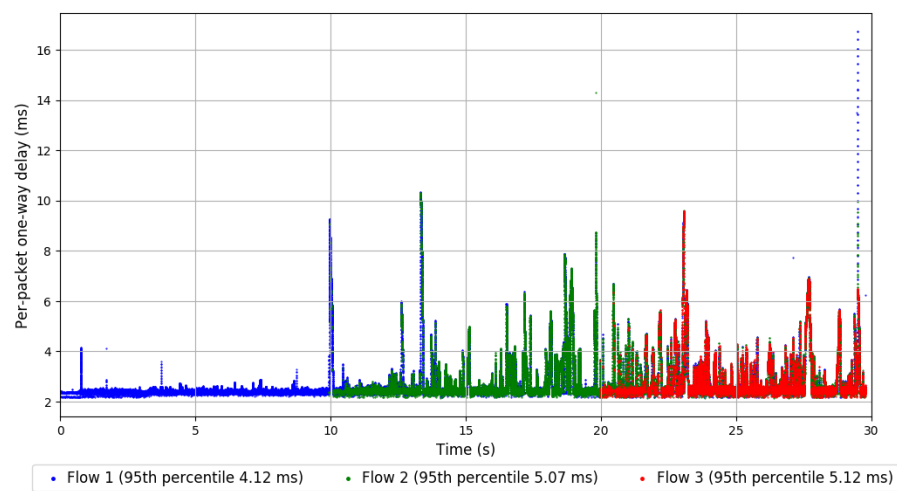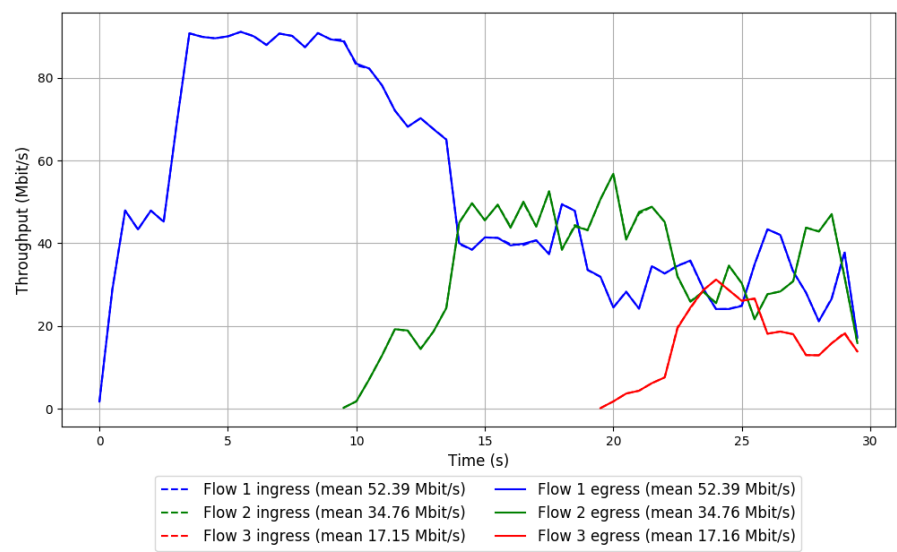Run 9: Report of Vivace-latency — Data Link

```
Run 10: Statistics of Vivace-latency

Start at: 2018-01-17 02:13:30
End at: 2018-01-17 02:14:00
Local clock offset: 0.442 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2018-01-17 06:09:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.21 Mbit/s
95th percentile per-packet one-way delay: 4.562 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.39 Mbit/s
95th percentile per-packet one-way delay: 4.120 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.76 Mbit/s
95th percentile per-packet one-way delay: 5.068 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 17.16 Mbit/s
95th percentile per-packet one-way delay: 5.115 ms
Loss rate: 0.07%
```

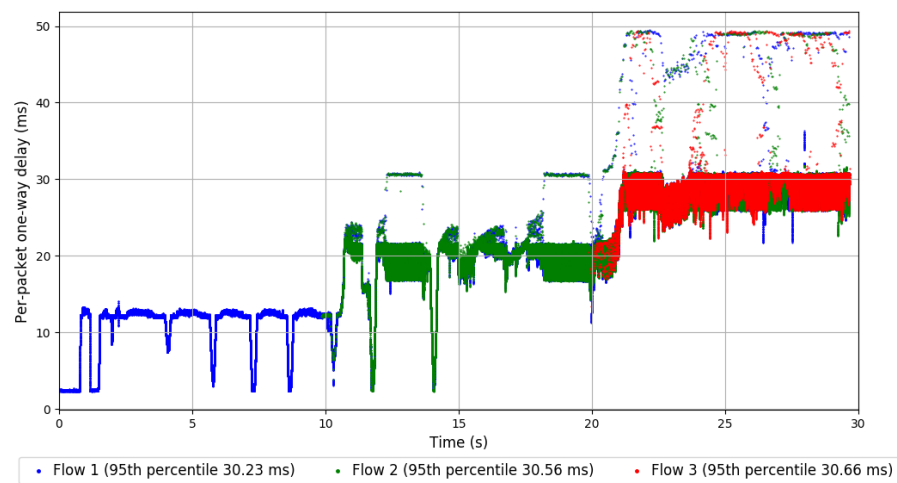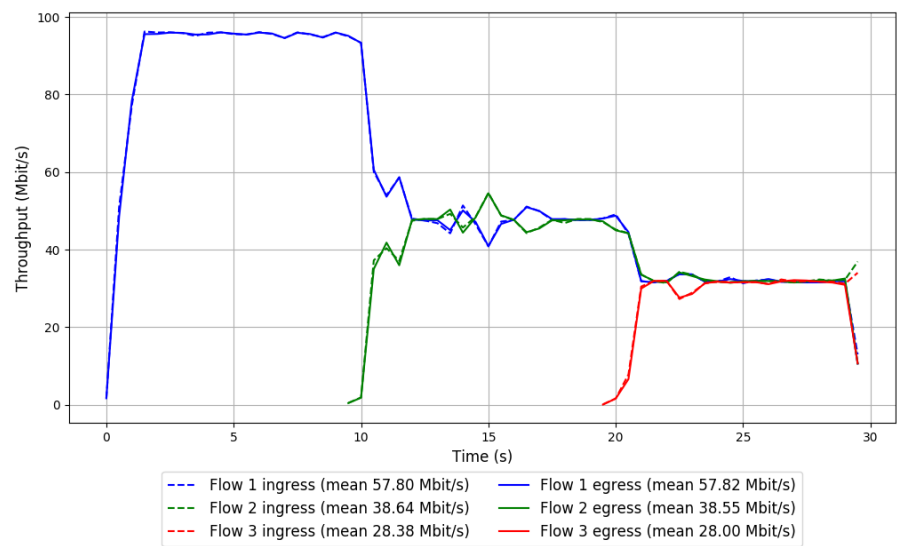Run 10: Report of Vivace-latency — Data Link

```
Run 1: Statistics of Vivace-loss

Start at: 2018-01-16 22:56:13
End at: 2018-01-16 22:56:43
Local clock offset: -0.02 ms
Remote clock offset: -0.495 ms


# Below is generated by plot.py at 2018-01-17 06:10:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.79 Mbit/s
95th percentile per-packet one-way delay: 30.520 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 57.82 Mbit/s
95th percentile per-packet one-way delay: 30.231 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 38.55 Mbit/s
95th percentile per-packet one-way delay: 30.559 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 28.00 Mbit/s
95th percentile per-packet one-way delay: 30.659 ms
Loss rate: 4.47%
```

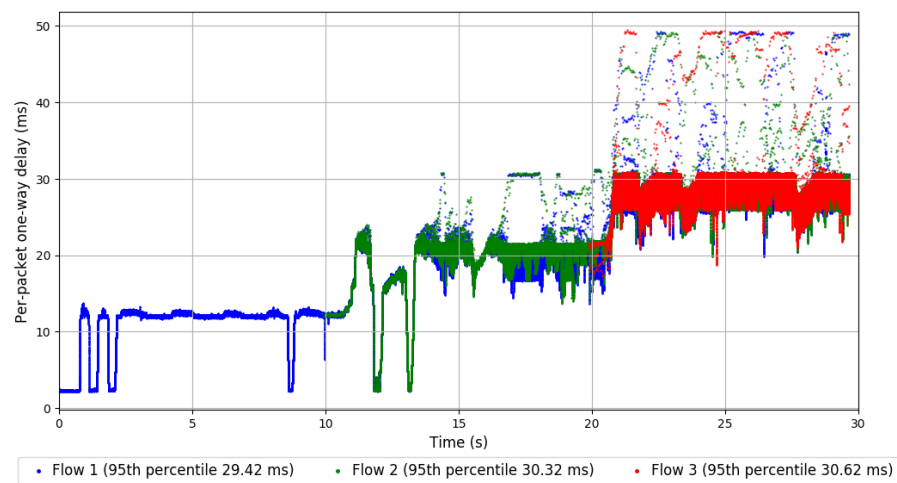Run 1: Report of Vivace-loss — Data Link

- - - Flow 1 ingress (mean 57.80 Mbit/s) —— Flow 1 egress (mean 57.82 Mbit/s)
- - - Flow 2 ingress (mean 38.64 Mbit/s) —— Flow 2 egress (mean 38.55 Mbit/s)
- - - Flow 3 ingress (mean 28.38 Mbit/s) —— Flow 3 egress (mean 28.00 Mbit/s)

· Flow 1 (95th percentile 30.23 ms)   · Flow 2 (95th percentile 30.56 ms)   · Flow 3 (95th percentile 30.66 ms)
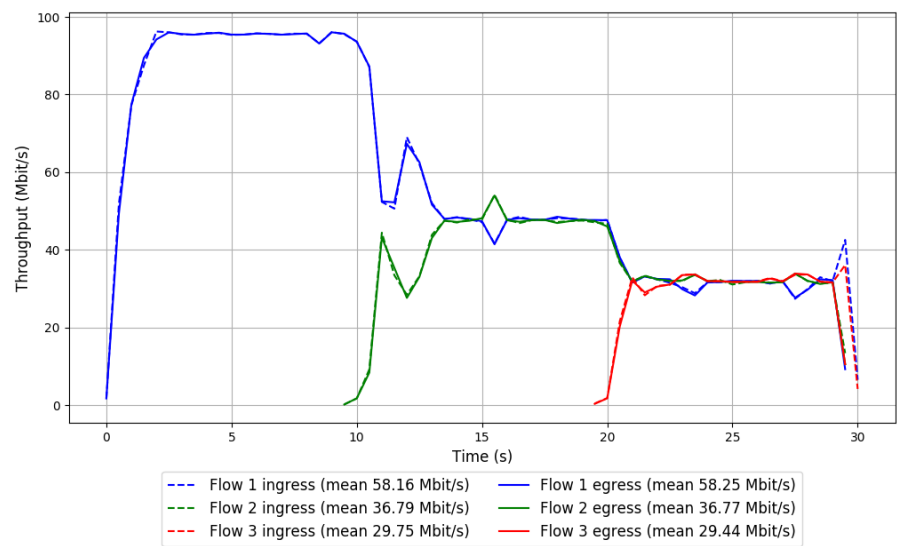
305

```
Run 2: Statistics of Vivace-loss

Start at: 2018-01-16 23:16:46
End at: 2018-01-16 23:17:16
Local clock offset: 0.015 ms
Remote clock offset: -0.257 ms


# Below is generated by plot.py at 2018-01-17 06:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.52 Mbit/s
95th percentile per-packet one-way delay: 30.365 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 29.417 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 30.324 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 29.44 Mbit/s
95th percentile per-packet one-way delay: 30.624 ms
Loss rate: 5.18%
```

Run 2: Report of Vivace-loss — Data Link

```
Run 3: Statistics of Vivace-loss

Start at: 2018-01-16 23:37:20
End at: 2018-01-16 23:37:50
Local clock offset: 0.073 ms
Remote clock offset: 0.032 ms


# Below is generated by plot.py at 2018-01-17 06:10:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 30.496 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 29.912 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 30.563 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 29.21 Mbit/s
95th percentile per-packet one-way delay: 30.621 ms
Loss rate: 2.90%
```
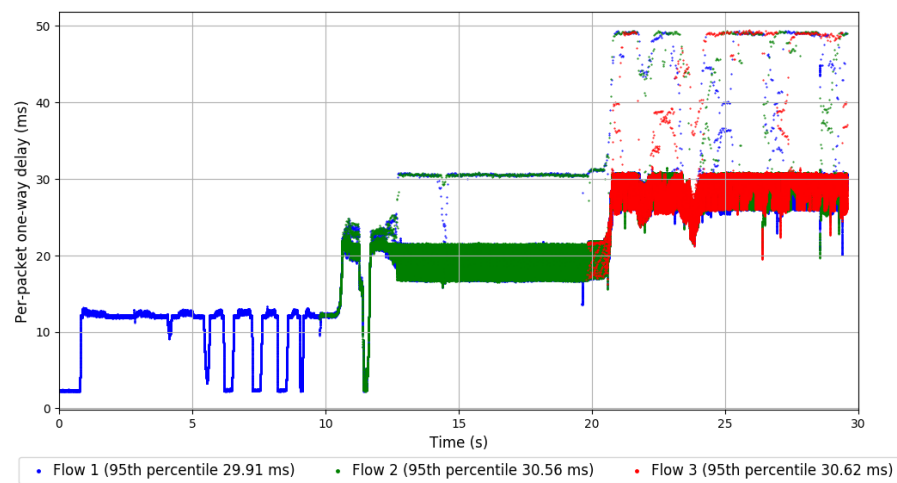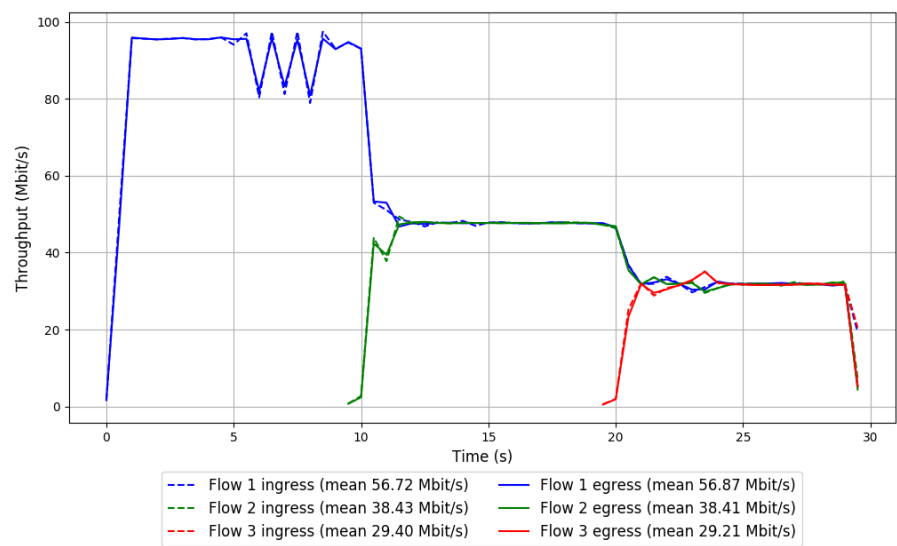
Run 3: Report of Vivace-loss — Data Link

Flow 1 ingress (mean 56.72 Mbit/s) --- Flow 1 egress (mean 56.87 Mbit/s)
Flow 2 ingress (mean 38.43 Mbit/s) --- Flow 2 egress (mean 38.41 Mbit/s)
Flow 3 ingress (mean 29.40 Mbit/s) --- Flow 3 egress (mean 29.21 Mbit/s)

Flow 1 (95th percentile 29.91 ms) • Flow 2 (95th percentile 30.56 ms) • Flow 3 (95th percentile 30.62 ms)

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```
Run 4: Statistics of Vivace-loss

Start at: 2018-01-16 23:57:51
End at: 2018-01-16 23:58:21
Local clock offset: 0.114 ms
Remote clock offset: 0.287 ms


# Below is generated by plot.py at 2018-01-17 06:10:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 30.428 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 29.560 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 30.505 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 27.75 Mbit/s
95th percentile per-packet one-way delay: 30.627 ms
Loss rate: 2.75%
```
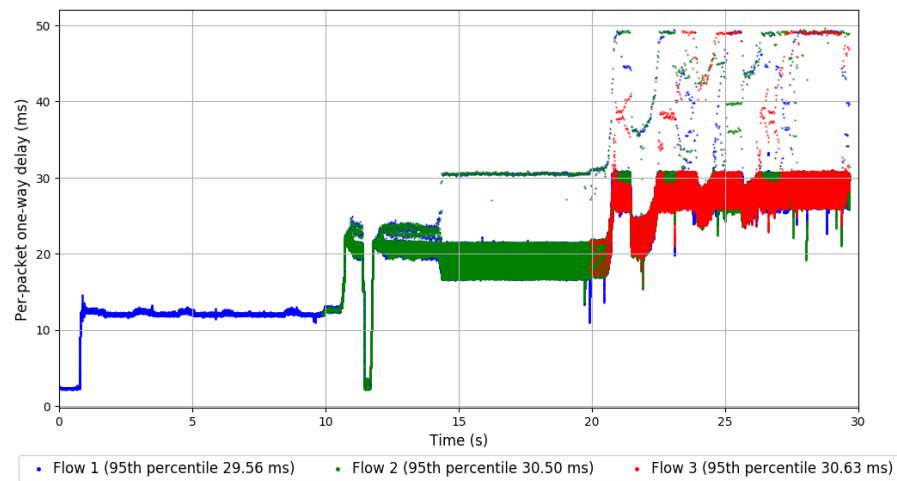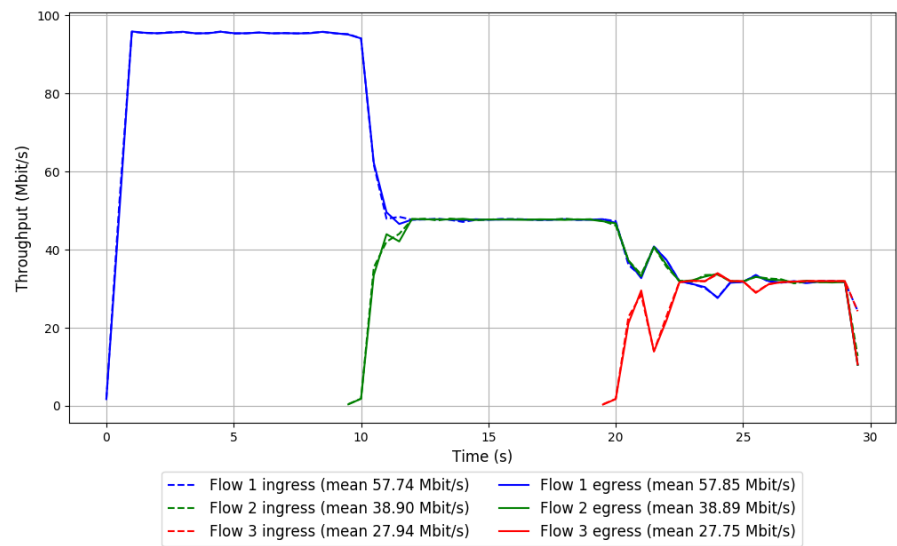
Run 4: Report of Vivace-loss — Data Link

- - - Flow 1 ingress (mean 57.74 Mbit/s) —— Flow 1 egress (mean 57.85 Mbit/s)
- - - Flow 2 ingress (mean 38.90 Mbit/s) —— Flow 2 egress (mean 38.89 Mbit/s)
- - - Flow 3 ingress (mean 27.94 Mbit/s) —— Flow 3 egress (mean 27.75 Mbit/s)

- Flow 1 (95th percentile 29.56 ms)   - Flow 2 (95th percentile 30.50 ms)   - Flow 3 (95th percentile 30.63 ms)

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```
Run 5: Statistics of Vivace-loss

Start at: 2018-01-17 00:18:25
End at: 2018-01-17 00:18:55
Local clock offset: 0.192 ms
Remote clock offset: 0.445 ms
```

Run 5: Report of Vivace-loss — Data Link

Figure is missing

Figure is missing

```
Run 6: Statistics of Vivace-loss

Start at: 2018-01-17 00:38:56
End at: 2018-01-17 00:39:26
Local clock offset: 0.156 ms
Remote clock offset: 0.38 ms


# Below is generated by plot.py at 2018-01-17 06:11:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.41 Mbit/s
95th percentile per-packet one-way delay: 30.416 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 57.07 Mbit/s
95th percentile per-packet one-way delay: 29.777 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 38.53 Mbit/s
95th percentile per-packet one-way delay: 30.458 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 29.29 Mbit/s
95th percentile per-packet one-way delay: 30.553 ms
Loss rate: 2.86%
```
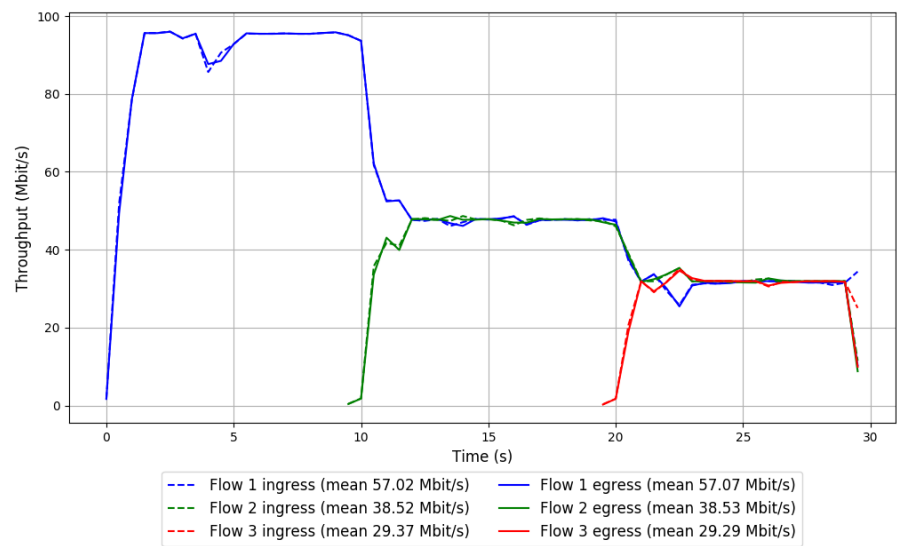
Run 6: Report of Vivace-loss — Data Link

```
Run 7: Statistics of Vivace-loss

Start at: 2018-01-17 00:59:25
End at: 2018-01-17 00:59:55
Local clock offset: 0.29 ms
Remote clock offset: 0.227 ms


# Below is generated by plot.py at 2018-01-17 06:11:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 30.426 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 29.891 ms
Loss rate: 1.93%
-- Flow 2:
Average throughput: 37.87 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 29.51 Mbit/s
95th percentile per-packet one-way delay: 30.603 ms
Loss rate: 9.55%
```
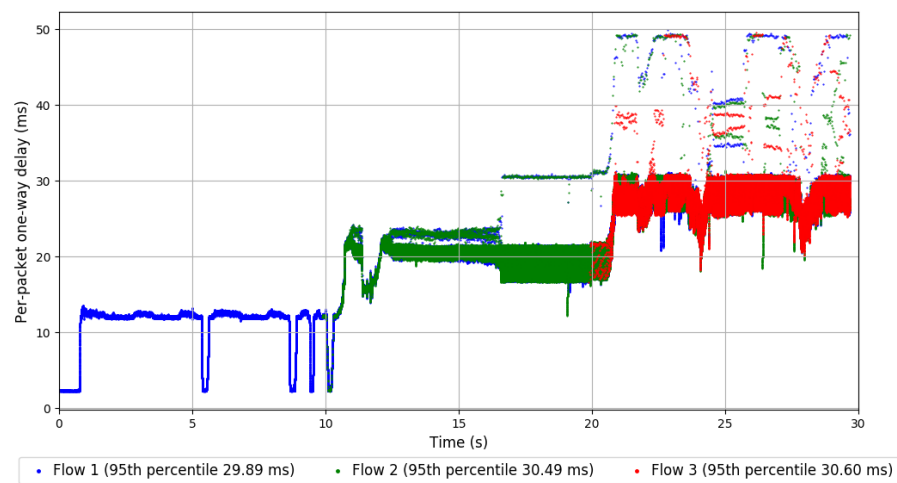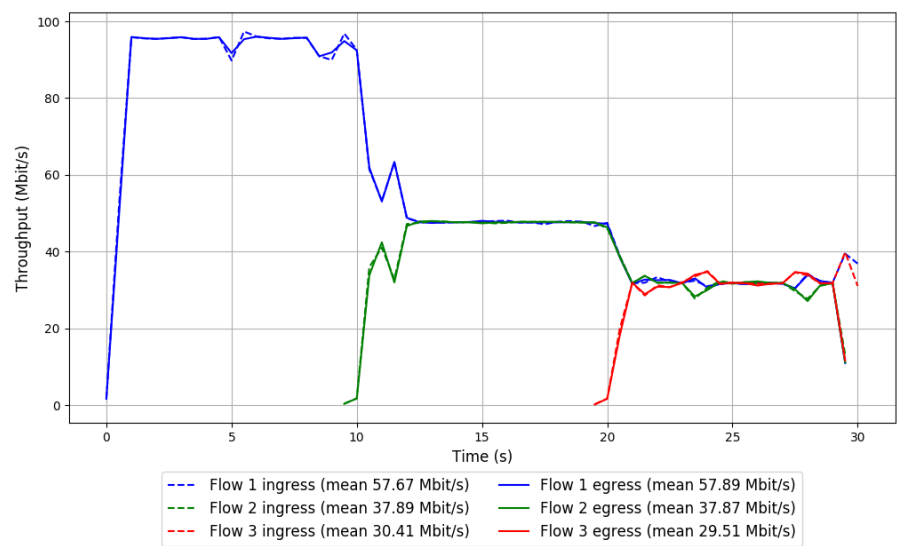
Run 7: Report of Vivace-loss — Data Link

```
Run 8: Statistics of Vivace-loss

Start at: 2018-01-17 01:20:02
End at: 2018-01-17 01:20:32
Local clock offset: 0.357 ms
Remote clock offset: 0.143 ms


# Below is generated by plot.py at 2018-01-17 06:11:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.08 Mbit/s
95th percentile per-packet one-way delay: 30.358 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 29.781 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 38.49 Mbit/s
95th percentile per-packet one-way delay: 30.417 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 30.597 ms
Loss rate: 1.17%
```
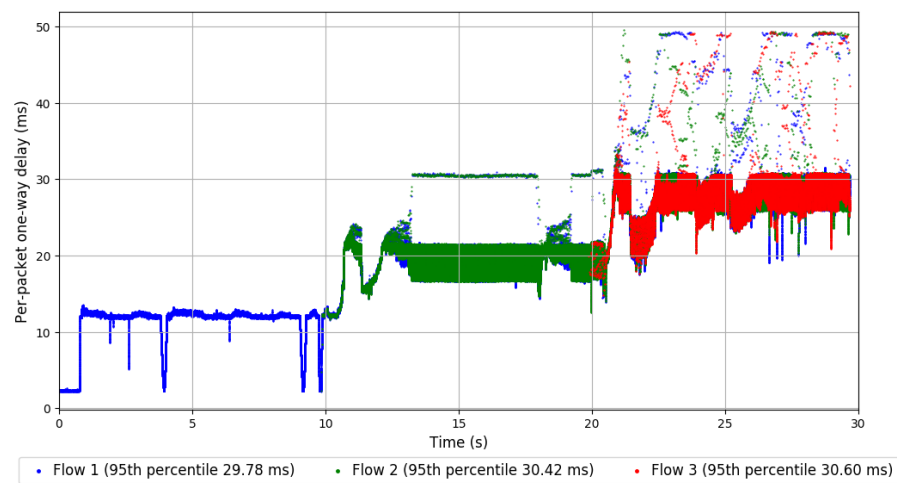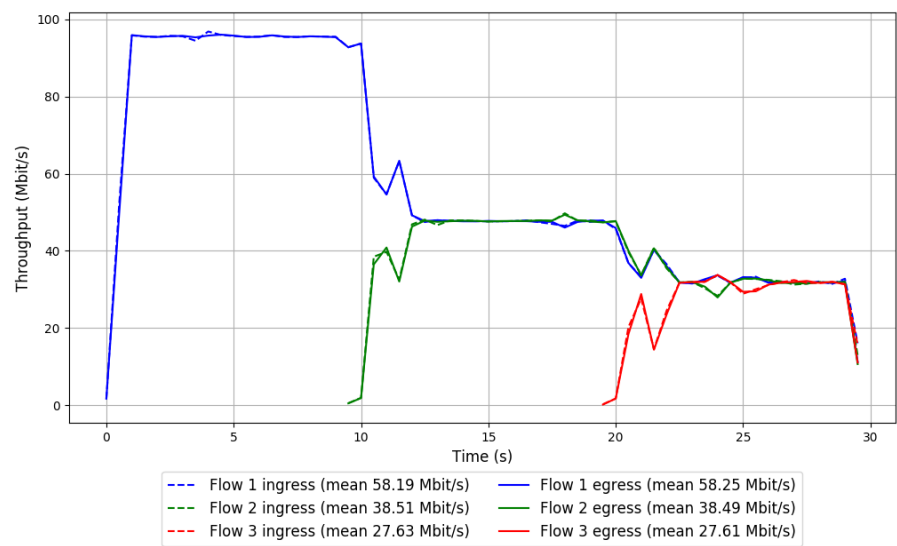
Run 8: Report of Vivace-loss — Data Link

```
Run 9: Statistics of Vivace-loss

Start at: 2018-01-17 01:40:34
End at: 2018-01-17 01:41:04
Local clock offset: 0.41 ms
Remote clock offset: 0.089 ms


# Below is generated by plot.py at 2018-01-17 06:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 30.470 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 56.86 Mbit/s
95th percentile per-packet one-way delay: 30.093 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 38.19 Mbit/s
95th percentile per-packet one-way delay: 30.518 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 29.15 Mbit/s
95th percentile per-packet one-way delay: 30.608 ms
Loss rate: 4.54%
```
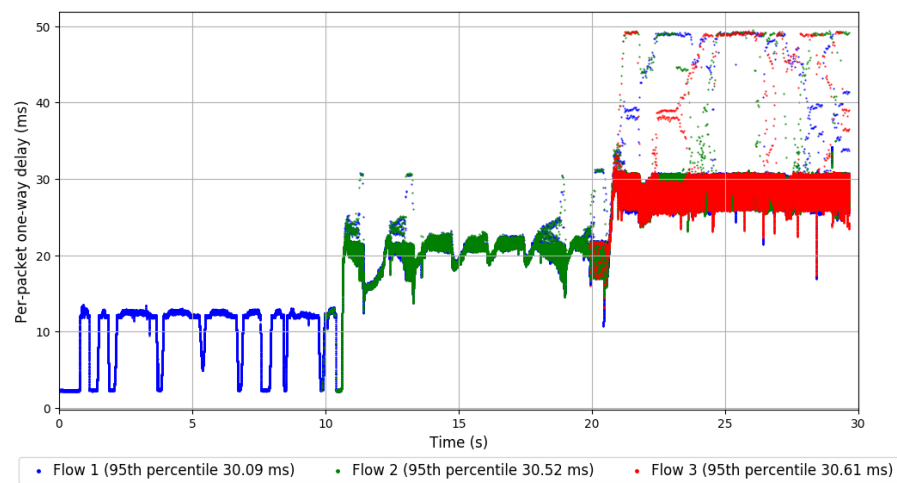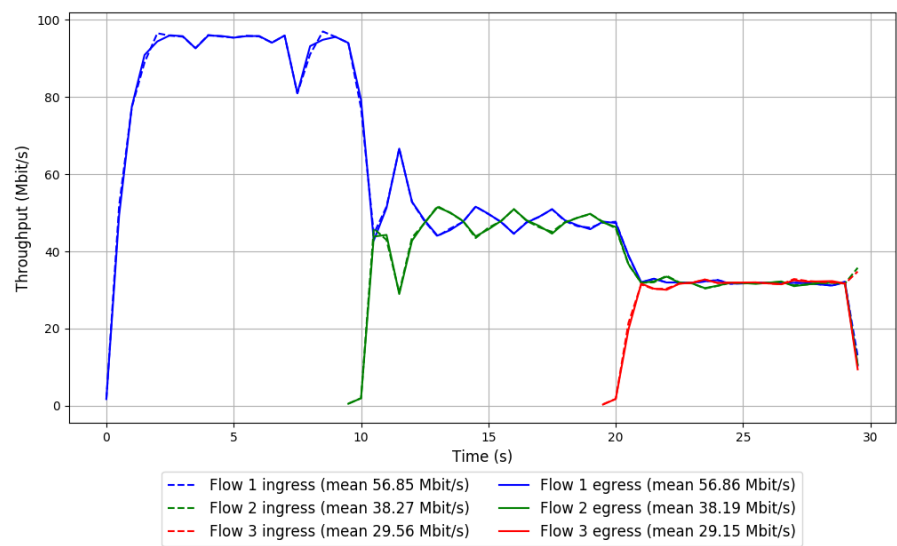
Run 9: Report of Vivace-loss — Data Link

- - - Flow 1 ingress (mean 56.85 Mbit/s)   —— Flow 1 egress (mean 56.86 Mbit/s)
- - - Flow 2 ingress (mean 38.27 Mbit/s)   —— Flow 2 egress (mean 38.19 Mbit/s)
- - - Flow 3 ingress (mean 29.56 Mbit/s)   —— Flow 3 egress (mean 29.15 Mbit/s)

• Flow 1 (95th percentile 30.09 ms)   • Flow 2 (95th percentile 30.52 ms)   • Flow 3 (95th percentile 30.61 ms)

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```
Run 10: Statistics of Vivace-loss

Start at: 2018-01-17 02:01:07
End at: 2018-01-17 02:01:37
Local clock offset: 0.441 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 30.550 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 57.77 Mbit/s
95th percentile per-packet one-way delay: 30.345 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 38.28 Mbit/s
95th percentile per-packet one-way delay: 30.577 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 29.05 Mbit/s
95th percentile per-packet one-way delay: 30.683 ms
Loss rate: 3.68%
```
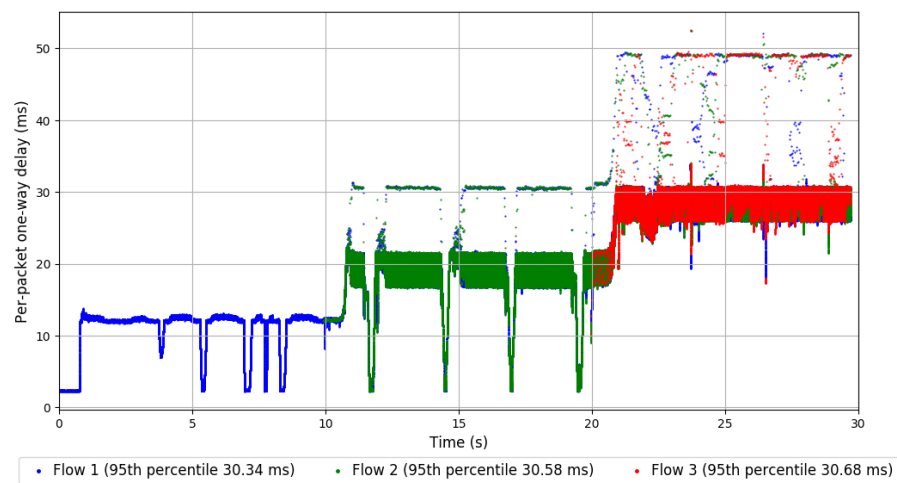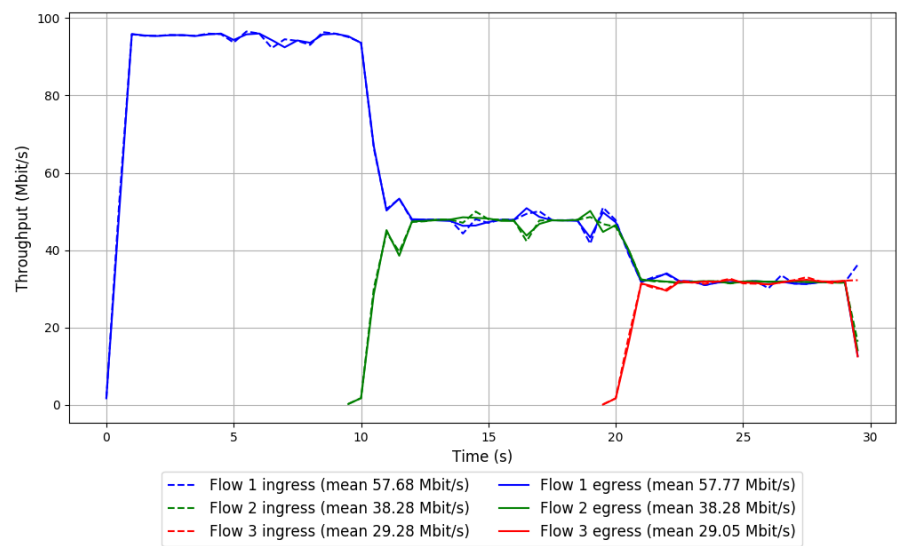
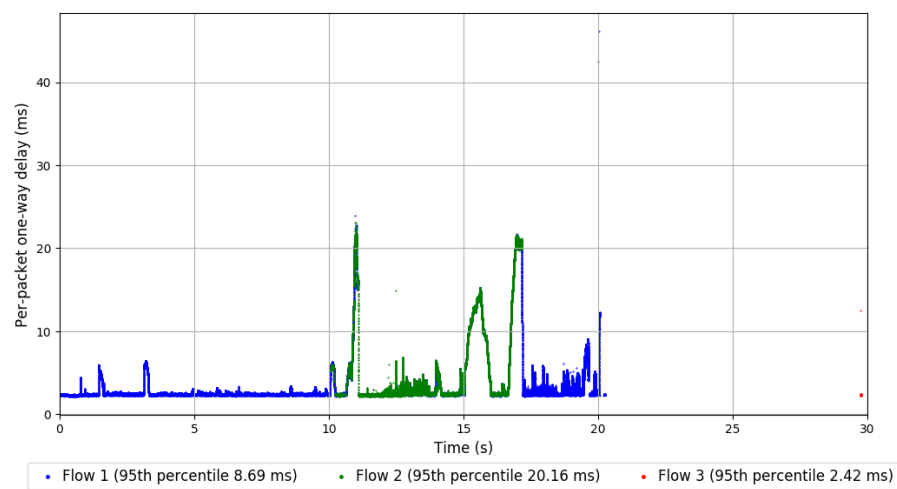Run 10: Report of Vivace-loss — Data Link
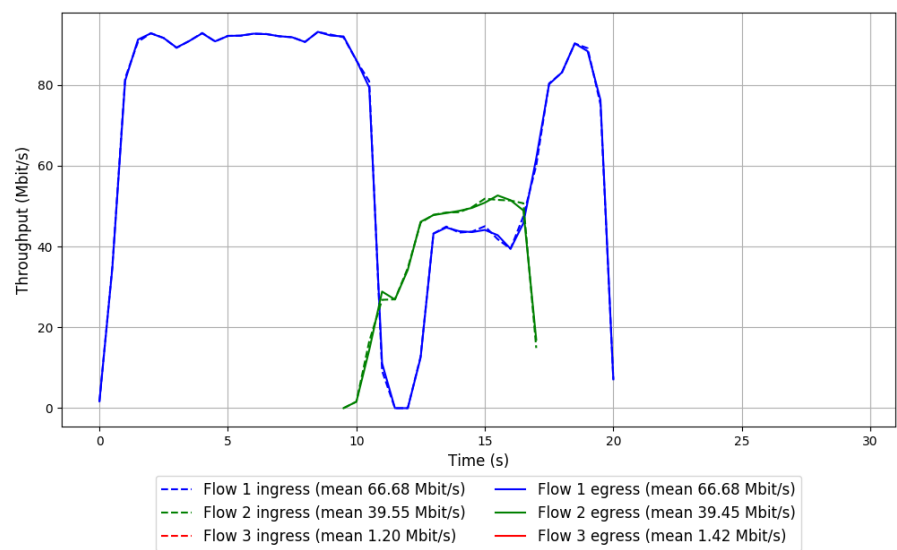

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```
Run 1: Statistics of Vivace-LTE

Start at: 2018-01-16 22:55:01
End at: 2018-01-16 22:55:31
Local clock offset: -0.079 ms
Remote clock offset: -0.461 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.84 Mbit/s
95th percentile per-packet one-way delay: 12.576 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.68 Mbit/s
95th percentile per-packet one-way delay: 8.688 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 20.157 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 2.423 ms
Loss rate: 0.00%
```
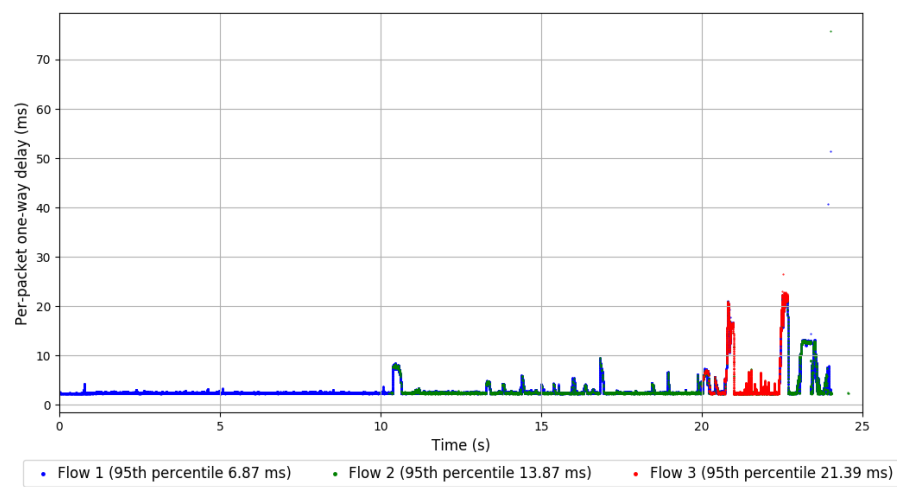
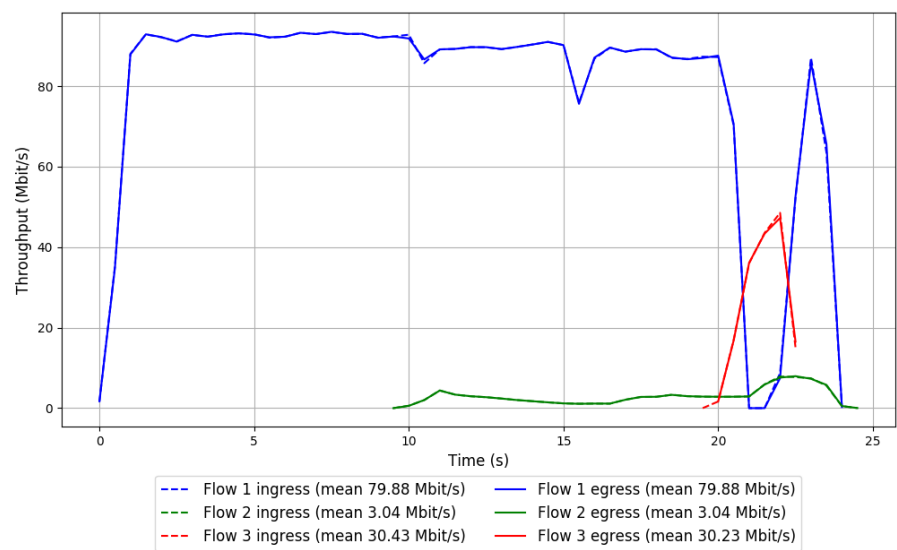Run 1: Report of Vivace-LTE — Data Link

```
Run 2: Statistics of Vivace-LTE

Start at: 2018-01-16 23:15:27
End at: 2018-01-16 23:15:57
Local clock offset: 0.021 ms
Remote clock offset: -0.296 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.17 Mbit/s
95th percentile per-packet one-way delay: 7.781 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.88 Mbit/s
95th percentile per-packet one-way delay: 6.866 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 13.868 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.23 Mbit/s
95th percentile per-packet one-way delay: 21.393 ms
Loss rate: 0.00%
```

Run 2: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 79.88 Mbit/s) --- Flow 1 egress (mean 79.88 Mbit/s)
Flow 2 ingress (mean 3.04 Mbit/s) --- Flow 2 egress (mean 3.04 Mbit/s)
Flow 3 ingress (mean 30.43 Mbit/s) --- Flow 3 egress (mean 30.23 Mbit/s)

Flow 1 (95th percentile 6.87 ms)   Flow 2 (95th percentile 13.87 ms)   Flow 3 (95th percentile 21.39 ms)

```
Run 3: Statistics of Vivace-LTE

Start at: 2018-01-16 23:36:03
End at: 2018-01-16 23:36:33
Local clock offset: 0.072 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.77 Mbit/s
95th percentile per-packet one-way delay: 20.992 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 19.113 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 21.646 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.50 Mbit/s
95th percentile per-packet one-way delay: 24.387 ms
Loss rate: 0.00%
```
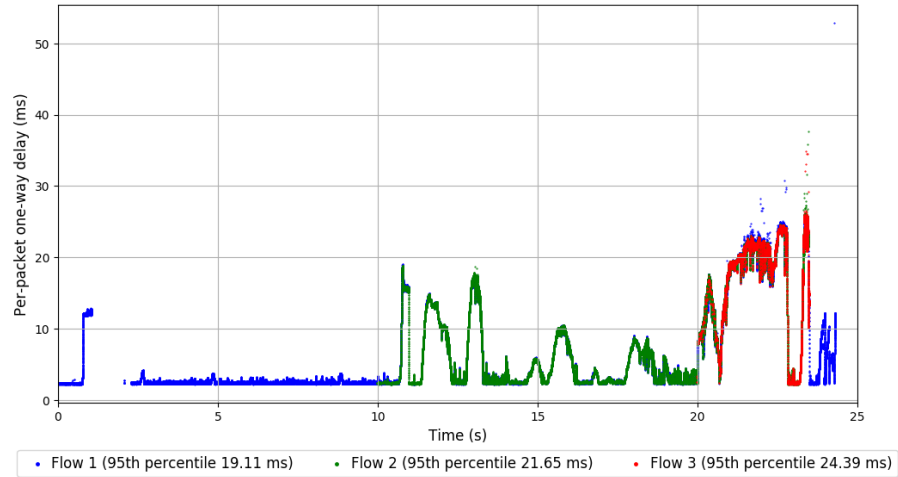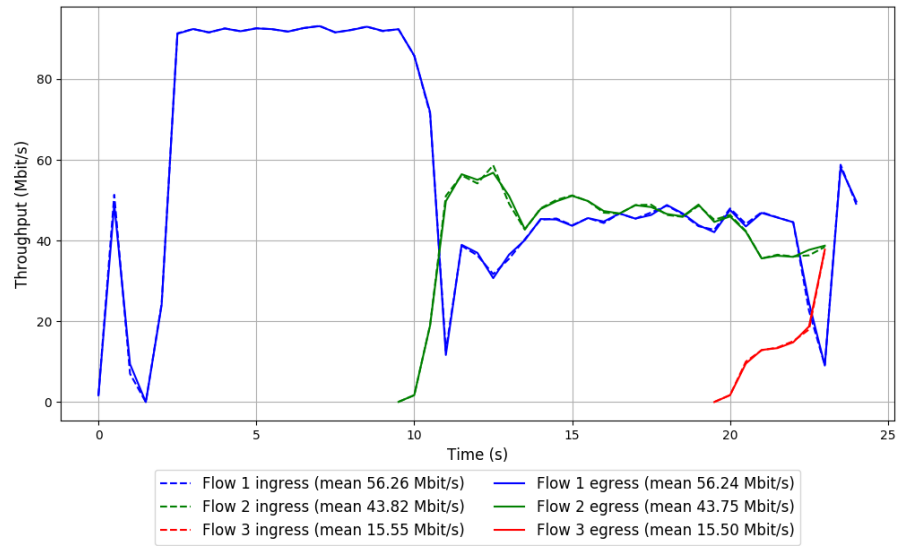
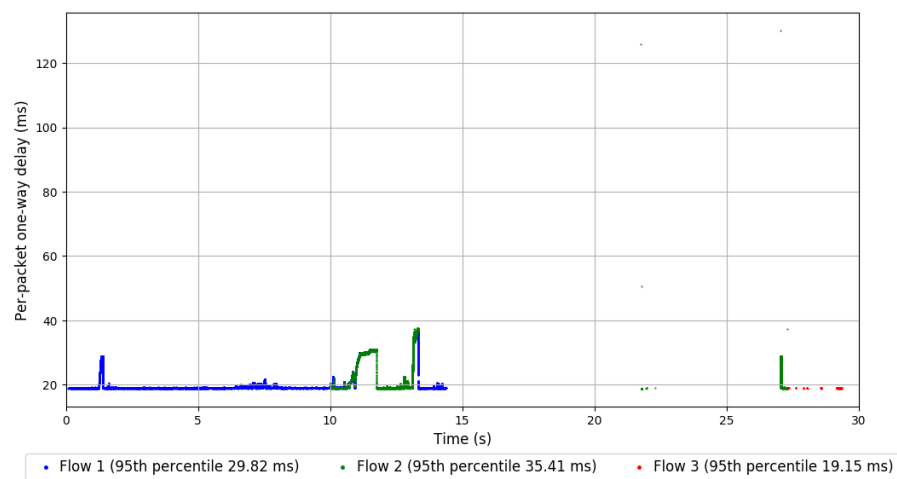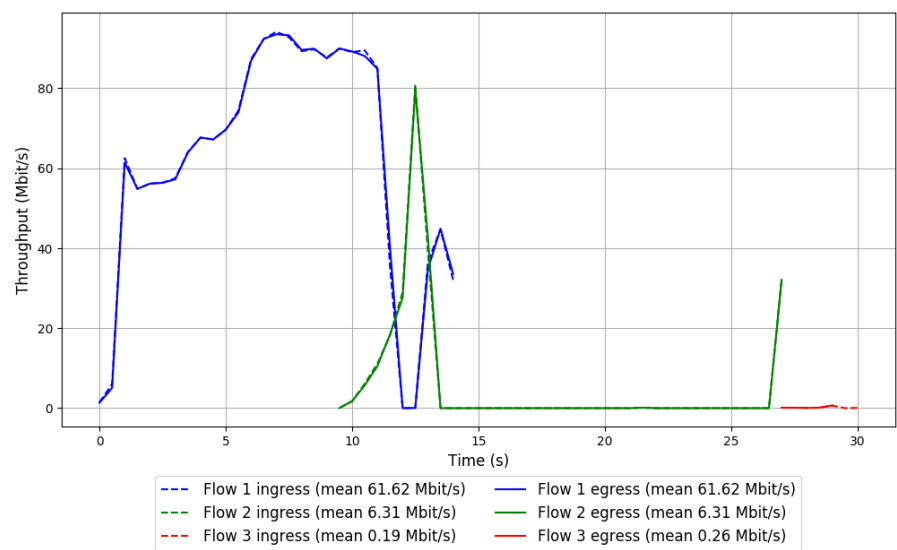Run 3: Report of Vivace-LTE — Data Link

```
Run 4: Statistics of Vivace-LTE

Start at: 2018-01-16 23:56:39
End at: 2018-01-16 23:57:09
Local clock offset: 0.108 ms
Remote clock offset: -16.38 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.97 Mbit/s
95th percentile per-packet one-way delay: 30.052 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.62 Mbit/s
95th percentile per-packet one-way delay: 29.815 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 35.405 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 19.149 ms
Loss rate: 4.97%
```

Run 4: Report of Vivace-LTE — Data Link

```
Run 5: Statistics of Vivace-LTE

Start at: 2018-01-17 00:17:11
End at: 2018-01-17 00:17:41
Local clock offset: 0.185 ms
Remote clock offset: 0.328 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.94 Mbit/s
95th percentile per-packet one-way delay: 12.081 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 69.26 Mbit/s
95th percentile per-packet one-way delay: 11.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 15.819 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 9.552 ms
Loss rate: 0.00%
```
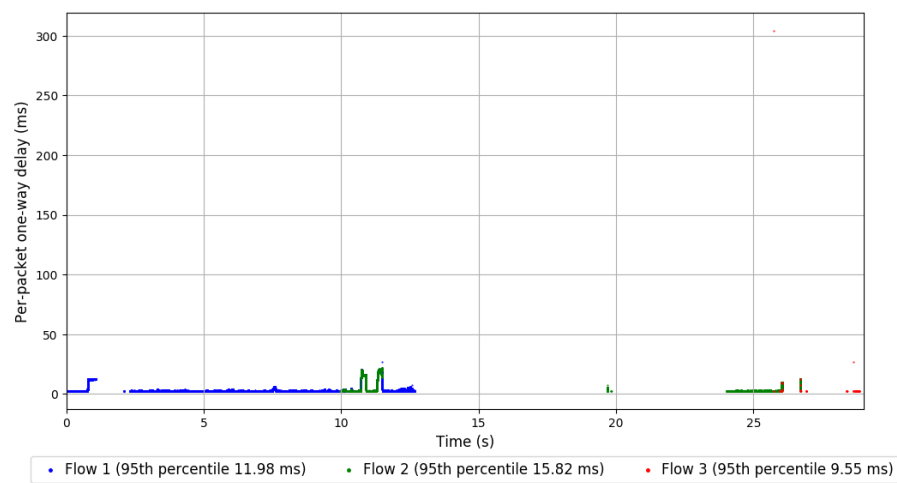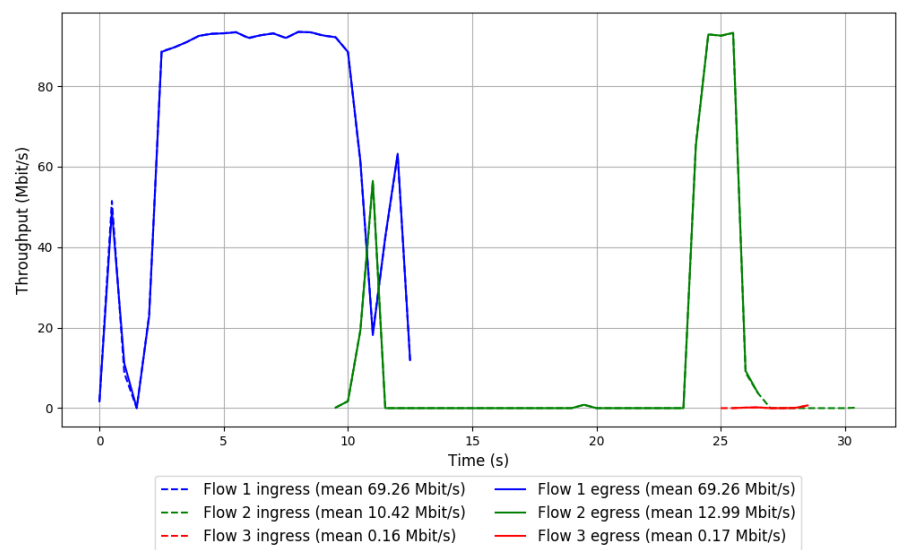
Run 5: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 69.26 Mbit/s)   Flow 1 egress (mean 69.26 Mbit/s)
Flow 2 ingress (mean 10.42 Mbit/s)   Flow 2 egress (mean 12.99 Mbit/s)
Flow 3 ingress (mean 0.16 Mbit/s)   Flow 3 egress (mean 0.17 Mbit/s)

• Flow 1 (95th percentile 11.98 ms)   • Flow 2 (95th percentile 15.82 ms)   • Flow 3 (95th percentile 9.55 ms)

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```
Run 6: Statistics of Vivace-LTE

Start at: 2018-01-17 00:37:41
End at: 2018-01-17 00:38:11
Local clock offset: 0.225 ms
Remote clock offset: 0.375 ms


# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.97 Mbit/s
95th percentile per-packet one-way delay: 9.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.27 Mbit/s
95th percentile per-packet one-way delay: 8.954 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 19.864 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 2.507 ms
Loss rate: 5.55%
```
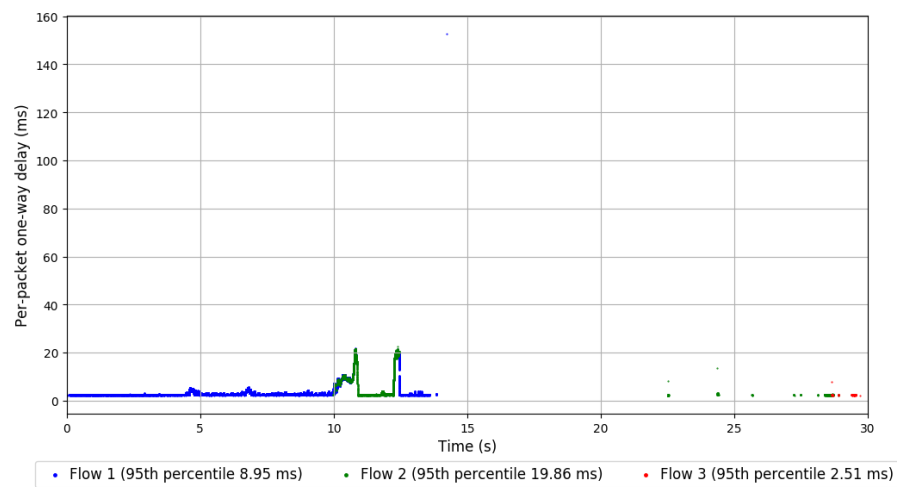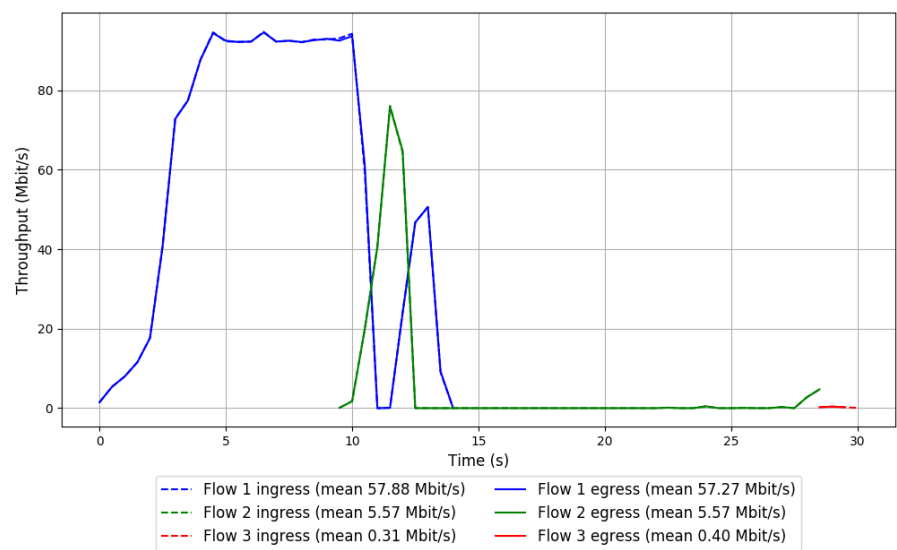
Run 6: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 57.88 Mbit/s)   Flow 1 egress (mean 57.27 Mbit/s)
Flow 2 ingress (mean 5.57 Mbit/s)   Flow 2 egress (mean 5.57 Mbit/s)
Flow 3 ingress (mean 0.31 Mbit/s)   Flow 3 egress (mean 0.40 Mbit/s)

Flow 1 (95th percentile 8.95 ms)   Flow 2 (95th percentile 19.86 ms)   Flow 3 (95th percentile 2.51 ms)

```
Run 7: Statistics of Vivace-LTE

Start at: 2018-01-17 00:58:14
End at: 2018-01-17 00:58:44
Local clock offset: 0.298 ms
Remote clock offset: 0.238 ms

# Below is generated by plot.py at 2018-01-17 06:12:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 10.968 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 2.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.77 Mbit/s
95th percentile per-packet one-way delay: 11.680 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 12.362 ms
Loss rate: 78.86%
```
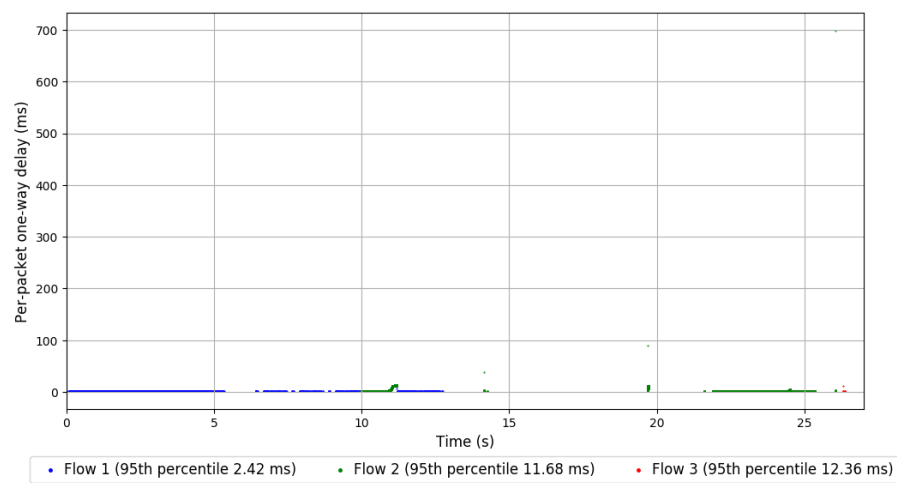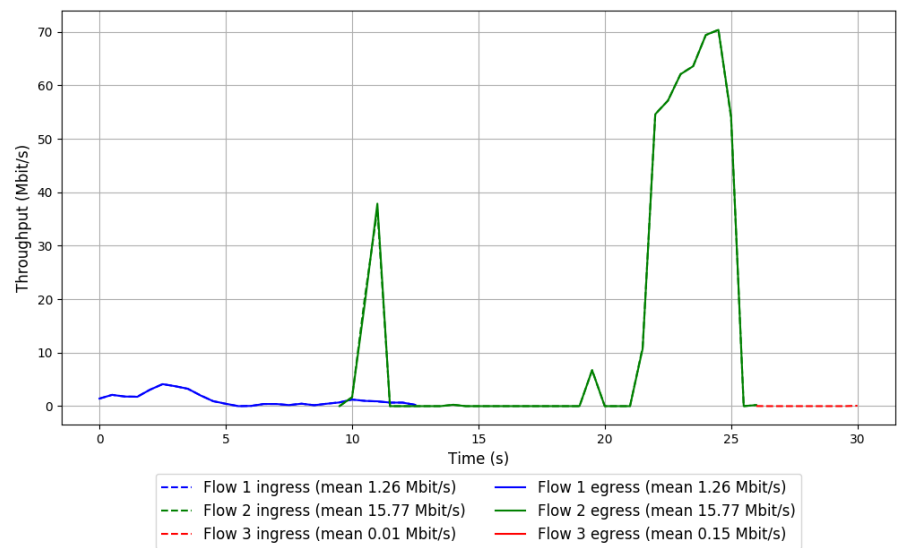
Run 7: Report of Vivace-LTE — Data Link

```
Run 8: Statistics of Vivace-LTE

Start at: 2018-01-17 01:18:50
End at: 2018-01-17 01:19:20
Local clock offset: 0.356 ms
Remote clock offset: 0.14 ms


# Below is generated by plot.py at 2018-01-17 06:12:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.07 Mbit/s
95th percentile per-packet one-way delay: 16.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.48 Mbit/s
95th percentile per-packet one-way delay: 12.167 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.72 Mbit/s
95th percentile per-packet one-way delay: 19.089 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 2.575 ms
Loss rate: 6.83%
```
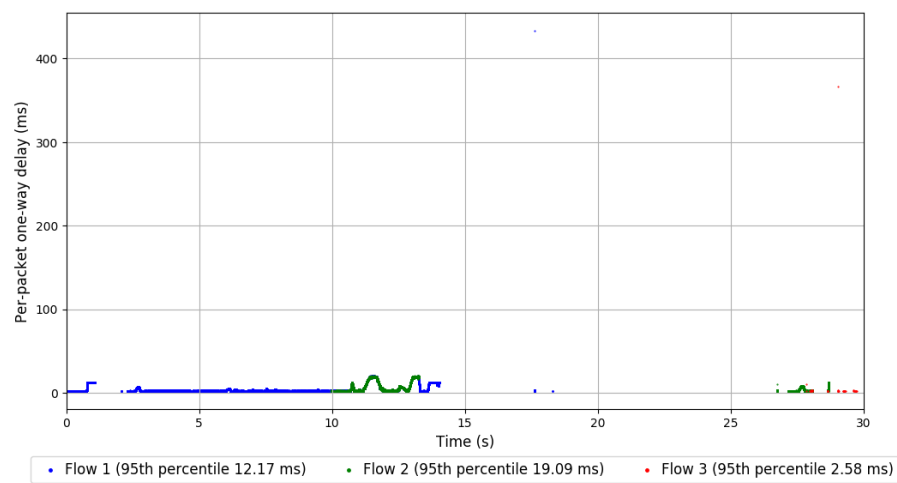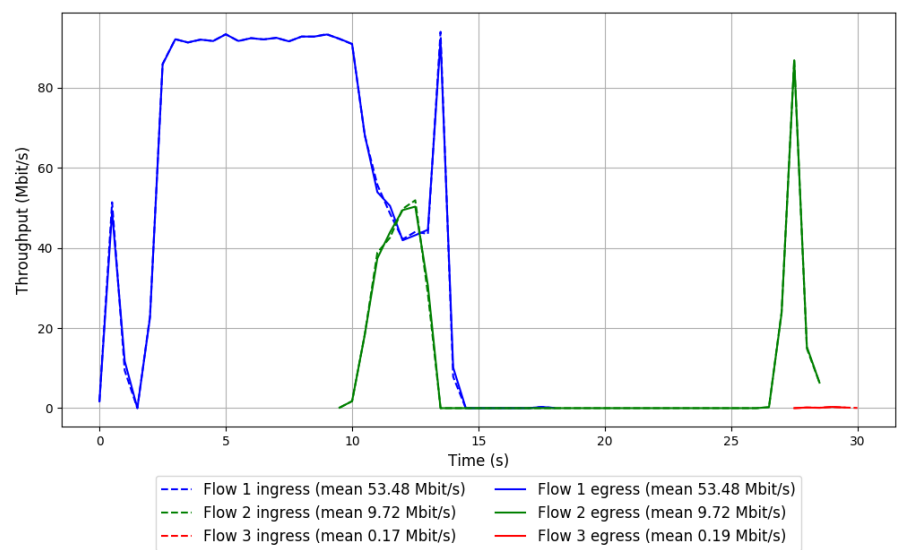
Run 8: Report of Vivace-LTE — Data Link
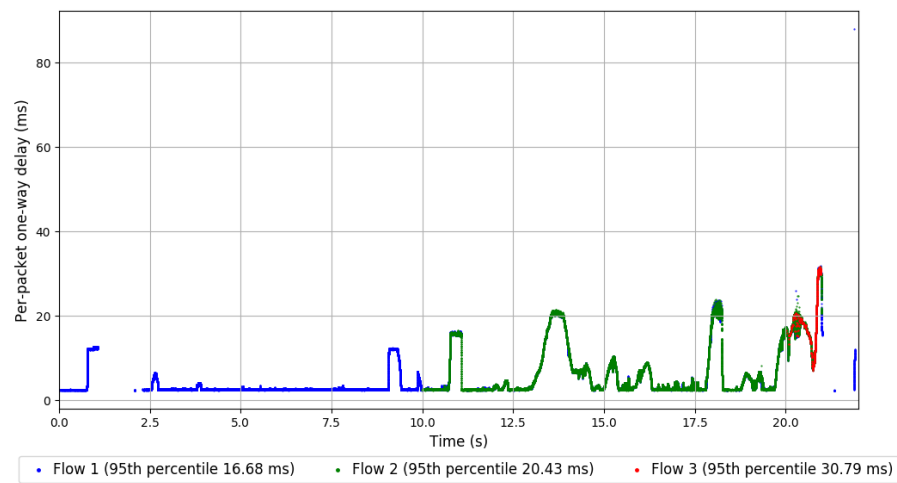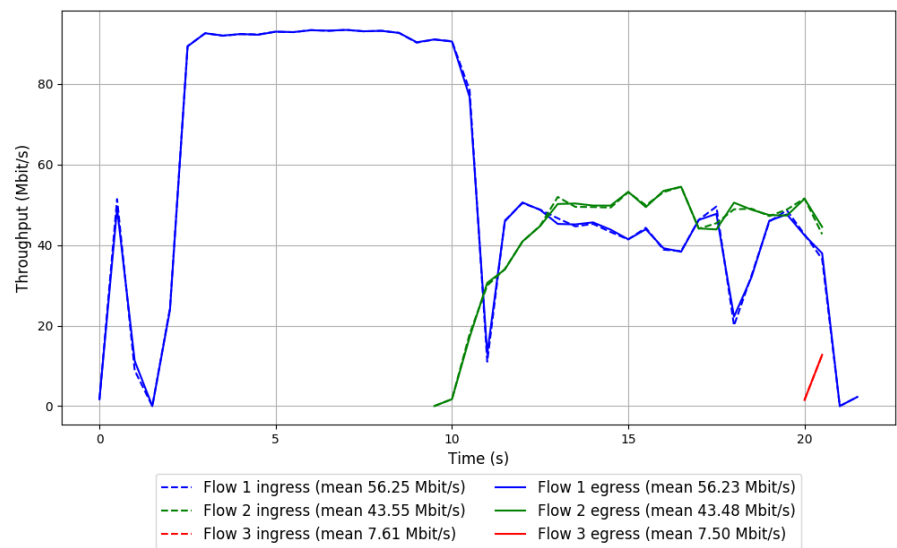
```
Run 9: Statistics of Vivace-LTE

Start at: 2018-01-17 01:39:20
End at: 2018-01-17 01:39:50
Local clock offset: 0.406 ms
Remote clock offset: 0.015 ms
```

Run 9: Report of Vivace-LTE — Data Link

```
Run 10: Statistics of Vivace-LTE

Start at: 2018-01-17 01:59:53
End at: 2018-01-17 02:00:23
Local clock offset: 0.363 ms
Remote clock offset: 0.052 ms


# Below is generated by plot.py at 2018-01-17 06:12:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.03 Mbit/s
95th percentile per-packet one-way delay: 16.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.21 Mbit/s
95th percentile per-packet one-way delay: 15.258 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.56 Mbit/s
95th percentile per-packet one-way delay: 19.627 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 26.753 ms
Loss rate: 0.00%
```

Run 10: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 51.21 Mbit/s) --- Flow 1 egress (mean 51.21 Mbit/s)
Flow 2 ingress (mean 43.66 Mbit/s) --- Flow 2 egress (mean 43.56 Mbit/s)
Flow 3 ingress (mean 11.35 Mbit/s) --- Flow 3 egress (mean 11.38 Mbit/s)

Flow 1 (95th percentile 15.26 ms) · Flow 2 (95th percentile 19.63 ms) · Flow 3 (95th percentile 26.75 ms)