Pantheon Report

Data path: AWS California 1 on ens5 (local) →Stanford cellular on ppp0

Generated at 2019-09-18 09:09:07 (UTC).

Repeated the test of 24 congestion control schemes 3 times. Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows. NTP offsets were measured against time.stanford.edu and have been applied to correct the timestamps in logs. System info: Linux 4.15.0-1045-aws net.core.default_qdisc = fq net.core.rmem_default = 16777216 $net.core.rmem_max = 536870912$ net.core.wmem_default = 16777216 $net.core.wmem_max = 536870912$ net.ipv4.tcp_rmem = 4096 16777216 536870912 net.ipv4.tcp_wmem = 4096 16777216 536870912 Git summary: branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec $\verb|third_party/fillp|@| d6da1459332fcee56963885d7eba17e6a32d4519|$ third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9 third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4 third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf third_party/muses @ 5ce721187ad823da20955337730c746486ca4966 third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200 third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd 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/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42 third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2 M src/ScreamClient M src/ScreamServer

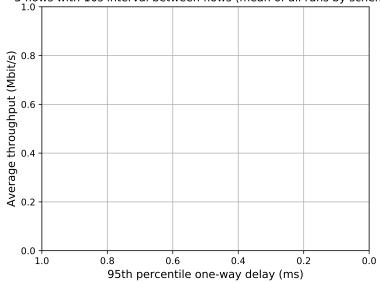
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26

third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494

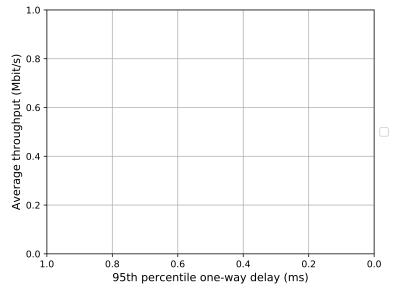
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc

M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



test from AWS California 1 to Stanford cellular, 3 runs of 30s each per scheme 3 flows with 10s interval between flows



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			mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
	$_{\mathrm{scheme}}$	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
	TCP BBR	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Copa	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TCP Cubic	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	FillP	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	FillP-Sheep	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Indigo	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Indigo-MusesC3	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Indigo-MusesC5	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Indigo-MusesD	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Indigo-MusesT	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	LEDBAT	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	$Muses_DecisionTree$	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	$Muses_DecisionTreeH0$	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	$Muses_DecisionTreeR0$	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PCC-Allegro	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PCC-Expr	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	QUIC Cubic	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SCReAM	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sprout	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TaoVA-100x	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TCP Vegas	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Verus	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PCC-Vivace	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WebRTC media	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Run 1: Statistics of TCP BBR

Run 1: Report of TCP BBR — Data Link

Figure is missing

Run 2: Statistics of TCP BBR

Run 2: Report of TCP BBR — Data Link

Figure is missing

Run 3: Statistics of TCP BBR

Run 3: Report of TCP BBR — Data Link

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Run 1: Statistics of Copa

Run 1: Report of Copa — Data Link

Figure is missing

Run 2: Statistics of Copa

Run 2: Report of Copa — Data Link

Figure is missing

Run 3: Statistics of Copa

Run 3: Report of Copa — Data Link

Figure is missing

Run 1: Statistics of TCP Cubic

Run 1: Report of TCP Cubic — Data Link

Figure is missing

Run 2: Statistics of TCP Cubic

Run 2: Report of TCP Cubic — Data Link

Figure is missing

Run 3: Statistics of TCP Cubic

Run 3: Report of TCP Cubic — Data Link

Figure is missing

Run 1: Statistics of FillP

Run 1: Report of FillP — Data Link

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Run 2: Statistics of FillP

Run 2: Report of FillP — Data Link

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Run 3: Statistics of FillP

Run 3: Report of FillP — Data Link

Figure is missing

Run 1: Statistics of FillP-Sheep

Run 1: Report of FillP-Sheep — Data Link

Figure is missing

Run 2: Statistics of FillP-Sheep

Run 2: Report of FillP-Sheep — Data Link

Figure is missing

Run 3: Statistics of FillP-Sheep

Run 3: Report of FillP-Sheep — Data Link

Figure is missing

Run 1: Statistics of Indigo

Run 1: Report of Indigo — Data Link

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Run 2: Statistics of Indigo

Run 2: Report of Indigo — Data Link

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Run 3: Statistics of Indigo

Run 3: Report of Indigo — Data Link

Figure is missing

Run 1: Statistics of Indigo-MusesC3

Run 1: Report of Indigo-MusesC3 — Data Link

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Run 2: Statistics of Indigo-MusesC3

Run 2: Report of Indigo-MusesC3 — Data Link

Figure is missing

Run 3: Statistics of Indigo-MusesC3

Run 3: Report of Indigo-MusesC3 — Data Link

Figure is missing

Run 1: Statistics of Indigo-MusesC5

Run 1: Report of Indigo-MusesC5 — Data Link

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Run 2: Statistics of Indigo-MusesC5

Run 2: Report of Indigo-MusesC5 — Data Link

Figure is missing

Run 3: Statistics of Indigo-MusesC5

Run 3: Report of Indigo-MusesC5 — Data Link

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Run 1: Statistics of Indigo-MusesD

Run 1: Report of Indigo-MusesD — Data Link

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Run 2: Statistics of Indigo-MusesD

Run 2: Report of Indigo-MusesD — Data Link

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Run 3: Statistics of Indigo-MusesD

Run 3: Report of Indigo-MusesD — Data Link

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${\tt Run \ 1: \ Statistics \ of \ Indigo-MusesT}$

Run 1: Report of Indigo-MusesT — Data Link

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${\tt Run~2:~Statistics~of~Indigo-MusesT}$

Run 2: Report of Indigo-MusesT — Data Link

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Run 3: Statistics of Indigo-MusesT

Run 3: Report of Indigo-MusesT — Data Link

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Run 1: Statistics of LEDBAT

Run 1: Report of LEDBAT — Data Link

Figure is missing

Run 2: Statistics of LEDBAT

Run 2: Report of LEDBAT — Data Link

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Run 3: Statistics of LEDBAT

Run 3: Report of LEDBAT — Data Link

Figure is missing

Run 1: Statistics of Muses_DecisionTree

Run 1: Report of Muses_DecisionTree — Data Link

Figure is missing

Run 2: Statistics of Muses_DecisionTree

Run 2: Report of Muses_DecisionTree — Data Link

Figure is missing

Run 3: Statistics of Muses_DecisionTree

Run 3: Report of Muses_DecisionTree — Data Link

Figure is missing

Run 1: Statistics of Muses_DecisionTreeHO

Run 1: Report of Muses_DecisionTreeH0 — Data Link

Figure is missing

Run 2: Statistics of Muses_DecisionTreeHO

Run 2: Report of Muses_DecisionTreeH0 — Data Link

Figure is missing

Run 3: Statistics of Muses_DecisionTreeHO

Run 3: Report of Muses_DecisionTreeH0 — Data Link

Figure is missing

Run 1: Statistics of Muses_DecisionTreeR0

Run 1: Report of Muses_DecisionTreeR0 — Data Link

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Run 2: Statistics of Muses_DecisionTreeR0

Run 2: Report of Muses_DecisionTreeR0 — Data Link

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Run 3: Statistics of Muses_DecisionTreeR0

Run 3: Report of Muses_DecisionTreeR0 — Data Link

Figure is missing

Run 1: Statistics of PCC-Allegro

Run 1: Report of PCC-Allegro — Data Link

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Run 2: Statistics of PCC-Allegro

Run 2: Report of PCC-Allegro — Data Link

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Run 3: Statistics of PCC-Allegro

Run 3: Report of PCC-Allegro — Data Link

Figure is missing

Run 1: Statistics of PCC-Expr

Run 1: Report of PCC-Expr — Data Link

Figure is missing

Run 2: Statistics of PCC-Expr

Run 2: Report of PCC-Expr — Data Link

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Run 3: Statistics of PCC-Expr

Run 3: Report of PCC-Expr — Data Link

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Run 1: Statistics of QUIC Cubic

Run 1: Report of QUIC Cubic — Data Link

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Run 2: Statistics of QUIC Cubic

Run 2: Report of QUIC Cubic — Data Link

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Run 3: Statistics of QUIC Cubic

Run 3: Report of QUIC Cubic — Data Link

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Run 1: Statistics of SCReAM

Run 1: Report of SCReAM — Data Link

Figure is missing

Run 2: Statistics of SCReAM

Run 2: Report of SCReAM — Data Link

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Run 3: Statistics of SCReAM

Run 3: Report of SCReAM — Data Link

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Run 1: Statistics of Sprout

Run 1: Report of Sprout — Data Link

Figure is missing

Run 2: Statistics of Sprout

Run 2: Report of Sprout — Data Link

Figure is missing

Run 3: Statistics of Sprout

Run 3: Report of Sprout — Data Link

Figure is missing

Run 1: Statistics of TaoVA-100x

Run 1: Report of TaoVA-100x — Data Link

Figure is missing

Run 2: Statistics of TaoVA-100x

Run 2: Report of TaoVA-100x — Data Link

Figure is missing

Run 3: Statistics of TaoVA-100x

Run 3: Report of TaoVA-100x — Data Link

Figure is missing

Run 1: Statistics of TCP Vegas

Run 1: Report of TCP Vegas — Data Link

Figure is missing

Run 2: Statistics of TCP Vegas

Run 2: Report of TCP Vegas — Data Link

Figure is missing

Run 3: Statistics of TCP Vegas

Run 3: Report of TCP Vegas — Data Link

Figure is missing

Run 1: Statistics of Verus

Run 1: Report of Verus — Data Link

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Run 2: Statistics of Verus

Run 2: Report of Verus — Data Link

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Run 3: Statistics of Verus

Run 3: Report of Verus — Data Link

Figure is missing

Run 1: Statistics of PCC-Vivace

Run 1: Report of PCC-Vivace — Data Link

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Run 2: Statistics of PCC-Vivace

Run 2: Report of PCC-Vivace — Data Link

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Run 3: Statistics of PCC-Vivace

Run 3: Report of PCC-Vivace — Data Link

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Run 1: Statistics of WebRTC media

Run 1: Report of WebRTC media — Data Link

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Run 2: Statistics of WebRTC media

Run 2: Report of WebRTC media — Data Link

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Run 3: Statistics of WebRTC media

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