



Recoveries (Default)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	269s 420ms	207s 520ms	22.98%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-def.svg	rec-p1-inserts-def.svg
updates.sql	178s 680ms	117s 790ms	34.08%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-def.svg	rec-p1-updates-def.svg
hot-updates.sql	36s 940ms	29s 240ms	20.84%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-def.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	38s 160ms	30s 20ms	21.33%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-def.svg	rec-p1-nonhot-def.svg
simple-update	21s 980ms	13s 380ms	39.13%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-def.svg	rec-p1-simple-update-def.svg
tpcb	20s 950ms	15s 210ms	27.40%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-def.svg	rec-p1-tpcb-like-def.svg

Recoveries (shared_buffers=8GB)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	249s 790ms	188s 820ms	24.41%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-sbuff.svg	rec-p1-inserts-sbuff.svg
updates.sql	108s 250ms	79s 190ms	26.85%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-sbuff.svg	rec-p1-updates-sbuff.svg
hot-updates.sql	13s 970ms	10s 440ms	25.27%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-sbuff.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	13s 810ms	10s 170ms	26.36%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-sbuff.svg	rec-p1-nonhot-sbuff.svg
simple-update	15s 350ms	10s 270ms	33.09%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-sbuff.svg	rec-p1-simple-update-sbuff.svg
tpcb	15s 440ms	9s 510ms	38.41%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-sbuff.svg	rec-p1-tpcb-like-sbuff.svg

Recoveries (shared_buffers=8GB, maintenance_work_mem=1GB, work_mem=1GB)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	240s 780ms	186s 830ms	22.41%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-sbuff-m.svg	rec-p1-inserts-sbuff-m.svg
updates.sql	113s 750ms	79s 700ms	29.93%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-sbuff-m.svg	rec-p1-updates-sbuff-m.svg
hot-updates.sql	13s 950ms	10s 610ms	23.94%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-sbuff-m.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	13s 300ms	10s 260ms	22.86%	pgbench -n -c 20 -j 20 -T 600 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-sbuff-m.svg	rec-p1-nonhot-sbuff-m.svg
simple-update	14s 330ms	9s 940ms	30.64%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-sbuff-m.svg	rec-p1-simple-update-sbuff-m.svg
tpcb	14s 880ms	11s 60ms	25.67%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-sbuff-m.svg	rec-p1-tpcb-like-sbuff-m.svg

Machine Specs:

CPU: Common KVM (4) @ 2.593GHz

GPU: 00:02.0 Vendor 1234 Device 1111

Memory: 15803MiB

custom workload files

inserts.sql	updates.sql	nonhot.sql	hot-updates.sql
INSERT INTO waltest (data) SELECT md5(random())::text FROM generate_series(1,100);	\set id random(1, 5000000) BEGIN; -- Update ~100 rows near the chosen ID UPDATE waltest SET data = md5(random())::text, updated_at = now() WHERE id BETWEEN :id AND :id + 100; -- Occasionally insert a new row if random(1,100) < 5 INSERT INTO waltest (data) VALUES (md5(random())::text); \endif -- Occasionally delete a random	\set id random(1, 5000000) BEGIN; -- Update the indexed column (PRIMARY KEY) UPDATE waltest SET id = id WHERE id BETWEEN :id AND :id + 50; COMMIT;	BEGIN; UPDATE waltest SET data = md5(random())::text, -- same fixed size -> always HOT updated_at = clock_timestamp() -- small fixed- size column WHERE id = :id; COMMIT;

DB init for base backup

	Time Elapsed (off)
pgbench workload	pgbench -i -s 300 -F 90 postgres
custom workloads	CREATE TABLE waltest (id SERIAL PRIMARY KEY, data TEXT, updated_at TIMESTAMPTZ DEFAULT now()); INSERT INTO waltest (data) SELECT md5(i::text) FROM generate_series(1, 5000000) i;