

# Benchmark details

```
[('base-parquet-small-buffe-oss-7_r6g_8xlarge-404-S-070d20f65e_arm64-hive_sf1000_parquet_part-s1993',
 'baseline'),
 ('parquet-small-buffer-oss-7_r6g_8xlarge-404-S-d28cd54d8b_arm64-hive_sf1000_parquet_part-s1994',
 'parquet small chunks'),
 ('parquet-128MB-buffer-oss-7_r6g_8xlarge-404-S-d28cd54d8b_arm64-hive_sf1000_parquet_part-s1997',
 'parquet 128MB buffer size')]
```

# Overall Times

	label	TPCH wall time	TPC-DS wall time	TPCH CPU time	TPC-DS CPU time	TPCH Network	TPC-DS Network	TPCH peak mem	TPC-DS peak mem	TPCH physical input	TPC-DS physical input	TPCH physical input read time	TPC-DS physical input read time	TPCH wall time % change	TPC-DS wall time % change	TPCH CPU time % change	TPC-DS CPU time % change	TPCH Network % change	TPC-DS Network % change	TPCH peak mem % change	TPC-DS peak mem % change	TPCH physical input change	
0	baseline	605	905	57,080	95,361	1.854 TiB	1.668 TiB	1.236 TiB	0.953 TiB	1.287 TiB	1.176 TiB	37	44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	parquet small chunks	605	931	59,737	98,953	1.854 TiB	1.673 TiB	1.148 TiB	0.943 TiB	1.287 TiB	1.178 TiB	34	44	-0.03	2.87	4.66	3.77	-0.00	0.26	-7.14	-0.98	0.00	0.00
2	parquet 128MB buffer size	603	881	57,337	93,513	1.867 TiB	1.667 TiB	1.239 TiB	0.949 TiB	1.289 TiB	1.176 TiB	37	43	-0.32	-2.61	0.45	-1.94	0.74	-0.08	0.28	-0.38	0.00	0.00

# FAILED QUERIES

## baseline

benchmark	query	mean_duration	std_dev
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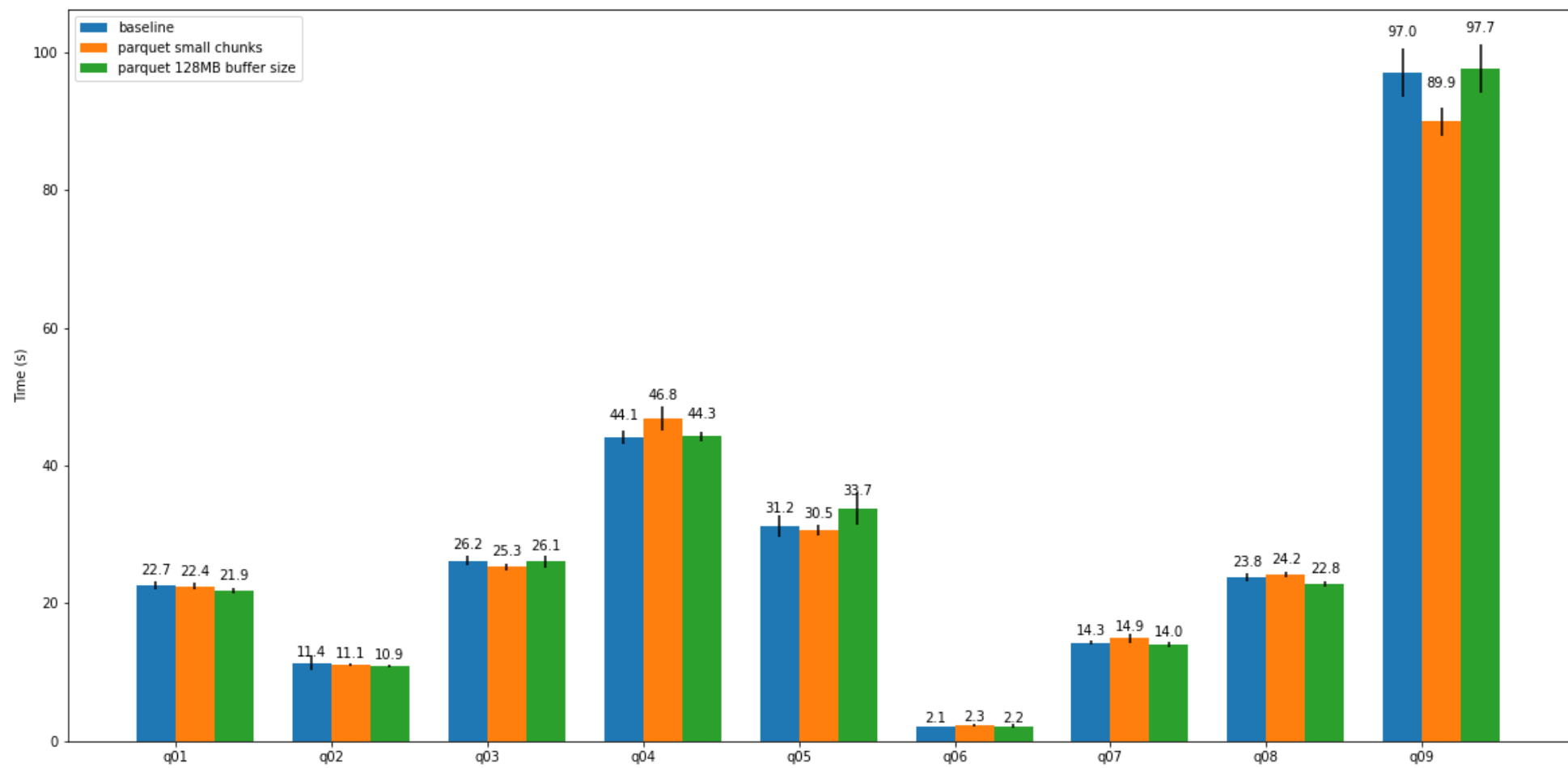
## parquet small chunks

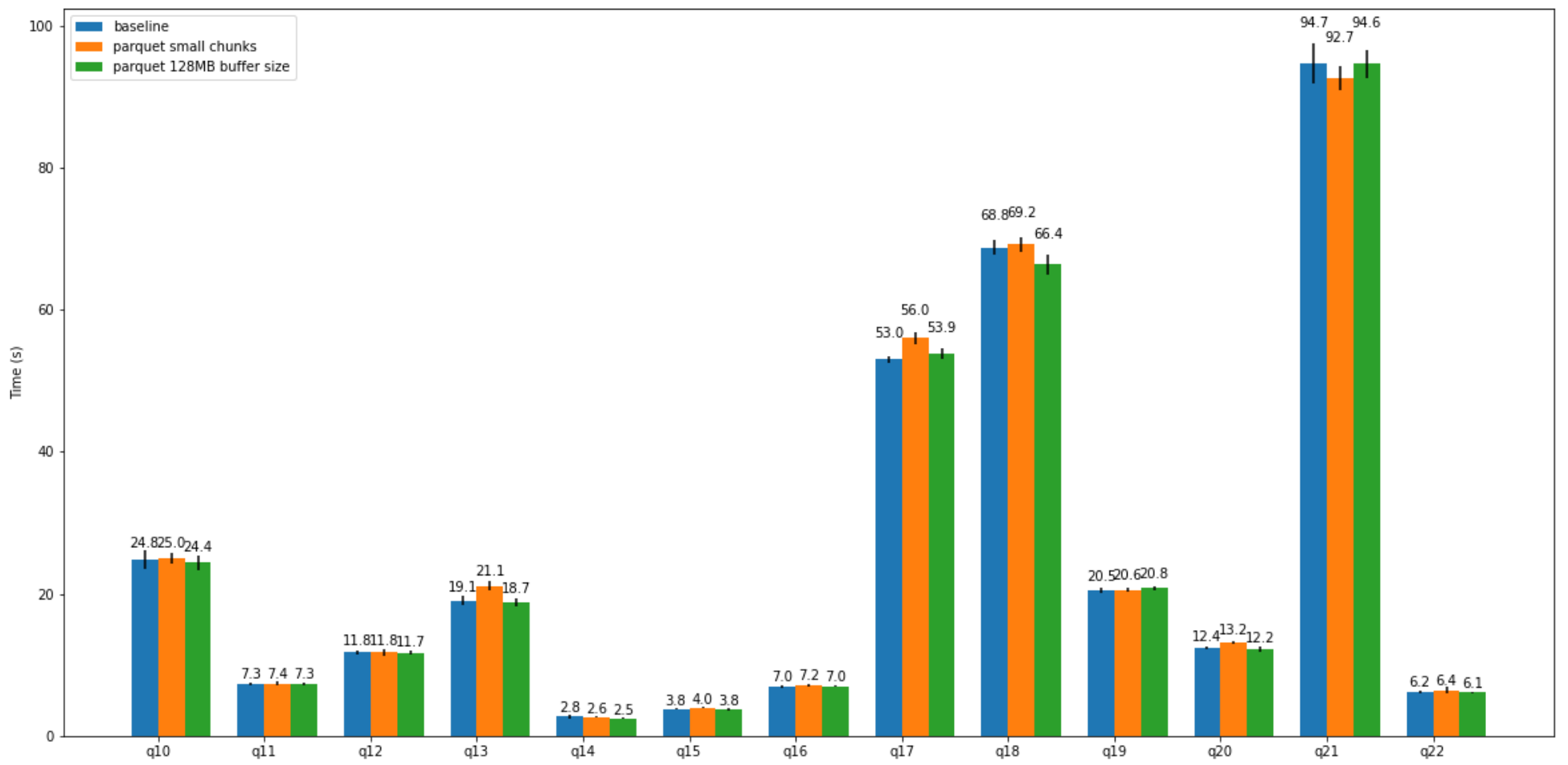
benchmark	query	mean_duration	std_dev
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## parquet 128MB buffer size

benchmark	query	mean_duration	std_dev
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# TPC-H Comparison (DURATION)





	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
8	presto/tpch/q09	97.03	3.55	89.93	1.97	97.66	3.47	-7.32	-7.10	0.64	3.66	2.20	3.55	0.00160
20	presto/tpch/q21	94.72	2.80	92.66	1.65	94.62	1.97	-2.17	-2.06	-0.10	2.95	1.79	2.08	0.15171
2	presto/tpch/q03	26.21	0.68	25.31	0.51	26.06	0.83	-3.44	-0.90	-0.57	2.60	2.01	3.19	0.02645
4	presto/tpch/q05	31.22	1.62	30.55	0.79	33.72	2.31	-2.14	-0.67	8.01	5.18	2.60	6.84	0.38464
1	presto/tpch/q02	11.35	1.13	11.11	0.27	10.91	0.17	-2.13	-0.24	-3.85	9.92	2.41	1.58	0.61963
0	presto/tpch/q01	22.66	0.55	22.44	0.47	21.93	0.38	-0.95	-0.22	-3.23	2.42	2.09	1.75	0.47984
13	presto/tpch/q14	2.76	0.28	2.61	0.10	2.50	0.15	-5.43	-0.15	-9.25	10.28	3.78	5.81	0.24926
11	presto/tpch/q12	11.76	0.27	11.75	0.41	11.67	0.26	-0.07	-0.01	-0.75	2.29	3.51	2.21	0.96648
18	presto/tpch/q19	20.50	0.42	20.57	0.28	20.82	0.32	0.38	0.08	1.56	2.06	1.34	1.56	0.71143
10	presto/tpch/q11	7.29	0.12	7.38	0.30	7.34	0.16	1.19	0.09	0.74	1.63	4.01	2.17	0.52108

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
9	presto/tpch/q10	24.84	1.29	24.98	0.74	24.36	1.11	0.55	0.14	-1.95	5.18	2.96	4.57	0.82568
5	presto/tpch/q06	2.14	0.06	2.30	0.14	2.17	0.30	7.81	0.17	1.38	2.90	5.93	13.67	0.02130
15	presto/tpch/q16	7.00	0.19	7.17	0.16	6.97	0.09	2.46	0.17	-0.36	2.77	2.18	1.35	0.12085
14	presto/tpch/q15	3.78	0.12	4.00	0.17	3.78	0.15	5.77	0.22	0.11	3.05	4.25	4.09	0.02637
21	presto/tpch/q22	6.21	0.20	6.44	0.43	6.12	0.14	3.82	0.24	-1.29	3.25	6.65	2.21	0.24851
7	presto/tpch/q08	23.79	0.63	24.18	0.39	22.81	0.45	1.61	0.38	-4.12	2.65	1.61	1.97	0.23554
17	presto/tpch/q18	68.80	1.10	69.22	1.04	66.42	1.40	0.61	0.42	-3.46	1.59	1.50	2.11	0.50965
6	presto/tpch/q07	14.26	0.29	14.92	0.66	14.02	0.41	4.63	0.66	-1.69	2.06	4.46	2.94	0.05028
19	presto/tpch/q20	12.39	0.25	13.17	0.22	12.15	0.37	6.31	0.78	-1.87	1.99	1.68	3.07	0.00018
12	presto/tpch/q13	19.05	0.62	21.12	0.69	18.74	0.58	10.85	2.07	-1.63	3.23	3.28	3.12	0.00027
3	presto/tpch/q04	44.09	1.03	46.84	1.77	44.25	0.69	6.24	2.75	0.37	2.34	3.78	1.56	0.00816
16	presto/tpch/q17	53.03	0.47	56.04	0.86	53.86	0.70	5.68	3.01	1.58	0.89	1.53	1.29	0.00002

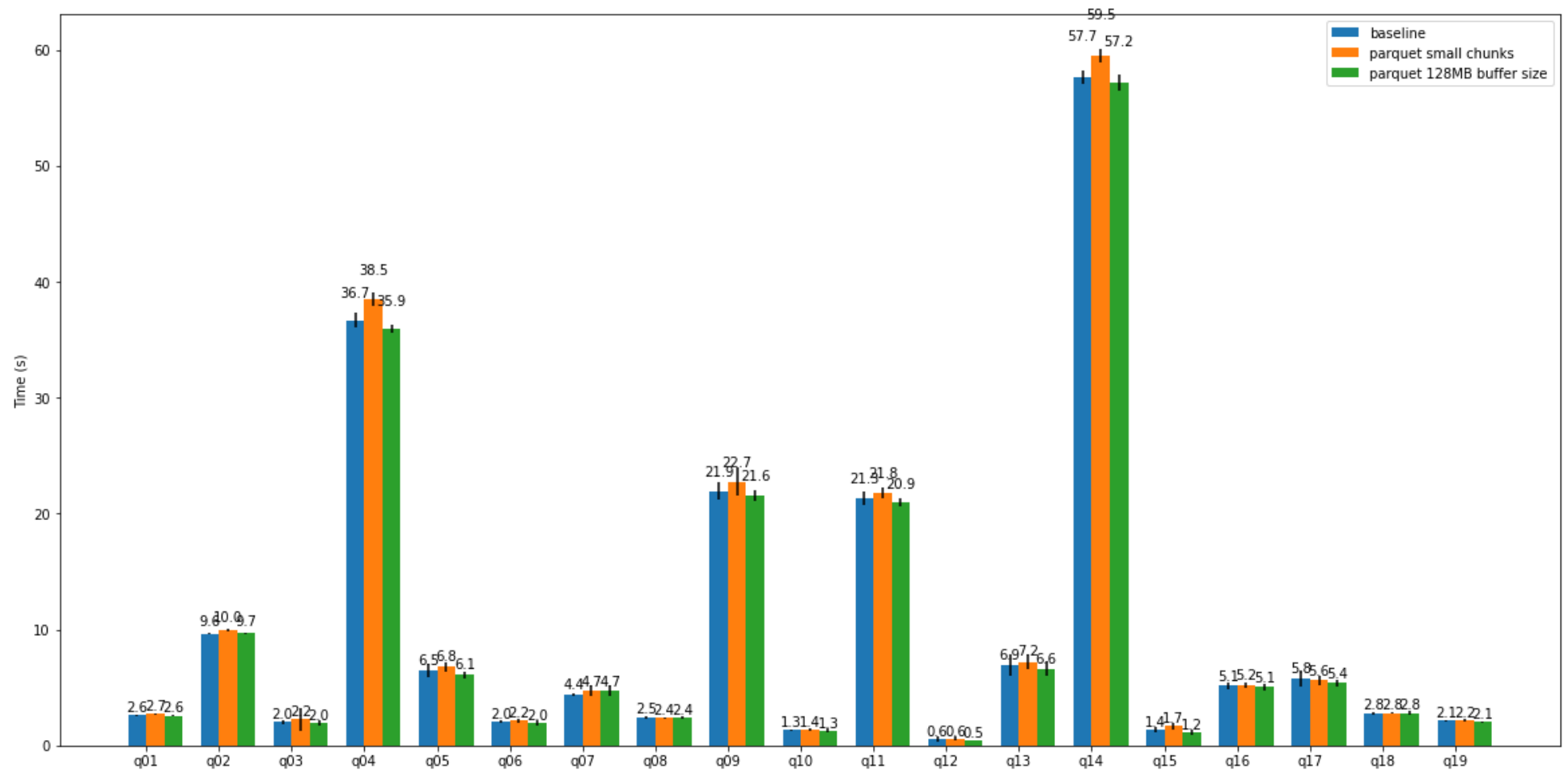
```
count 22
mean 2
std 5
min -7
25% -2
50% 1
75% 5
max 11
```

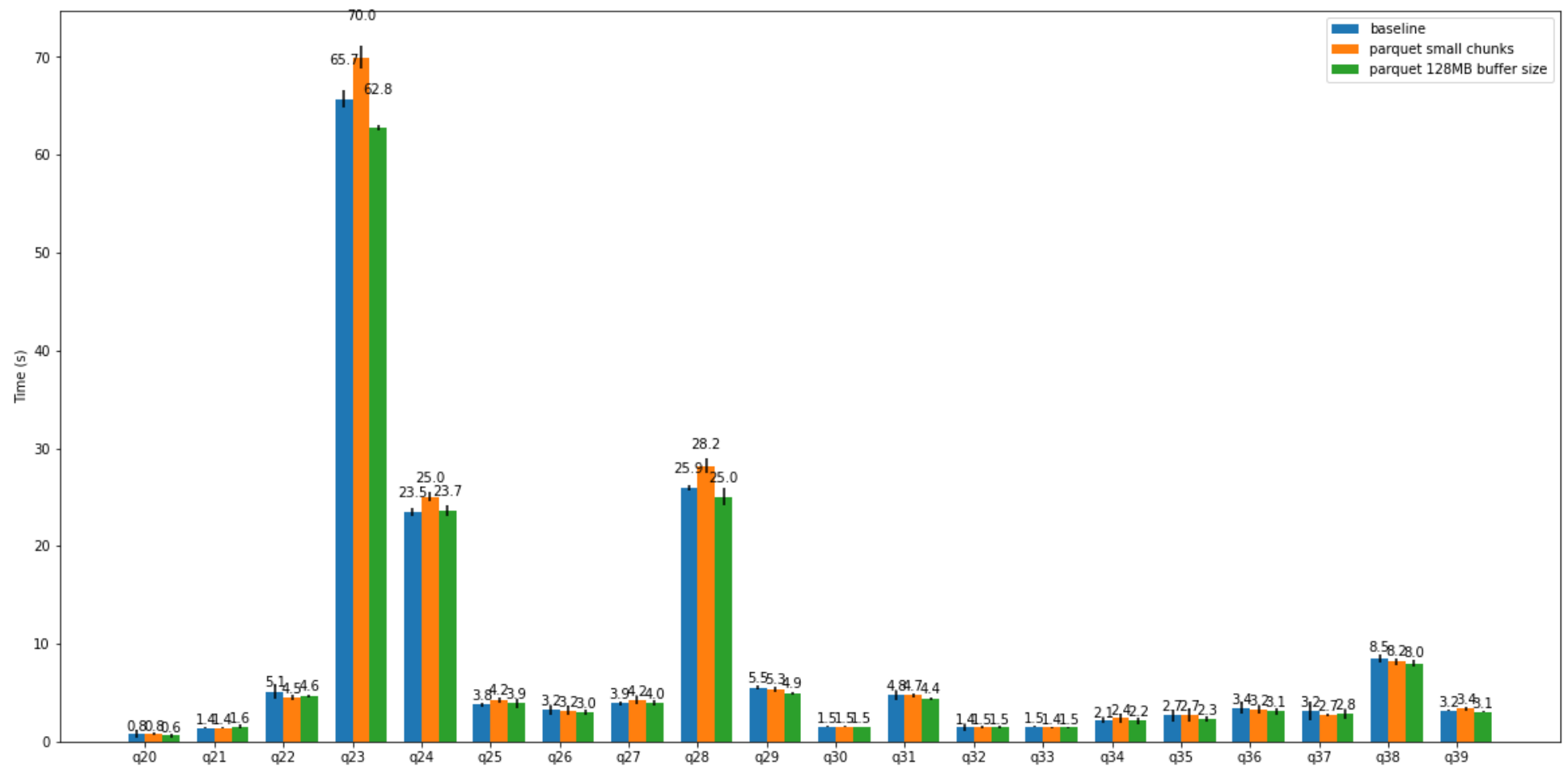
Name: % change, dtype: float64

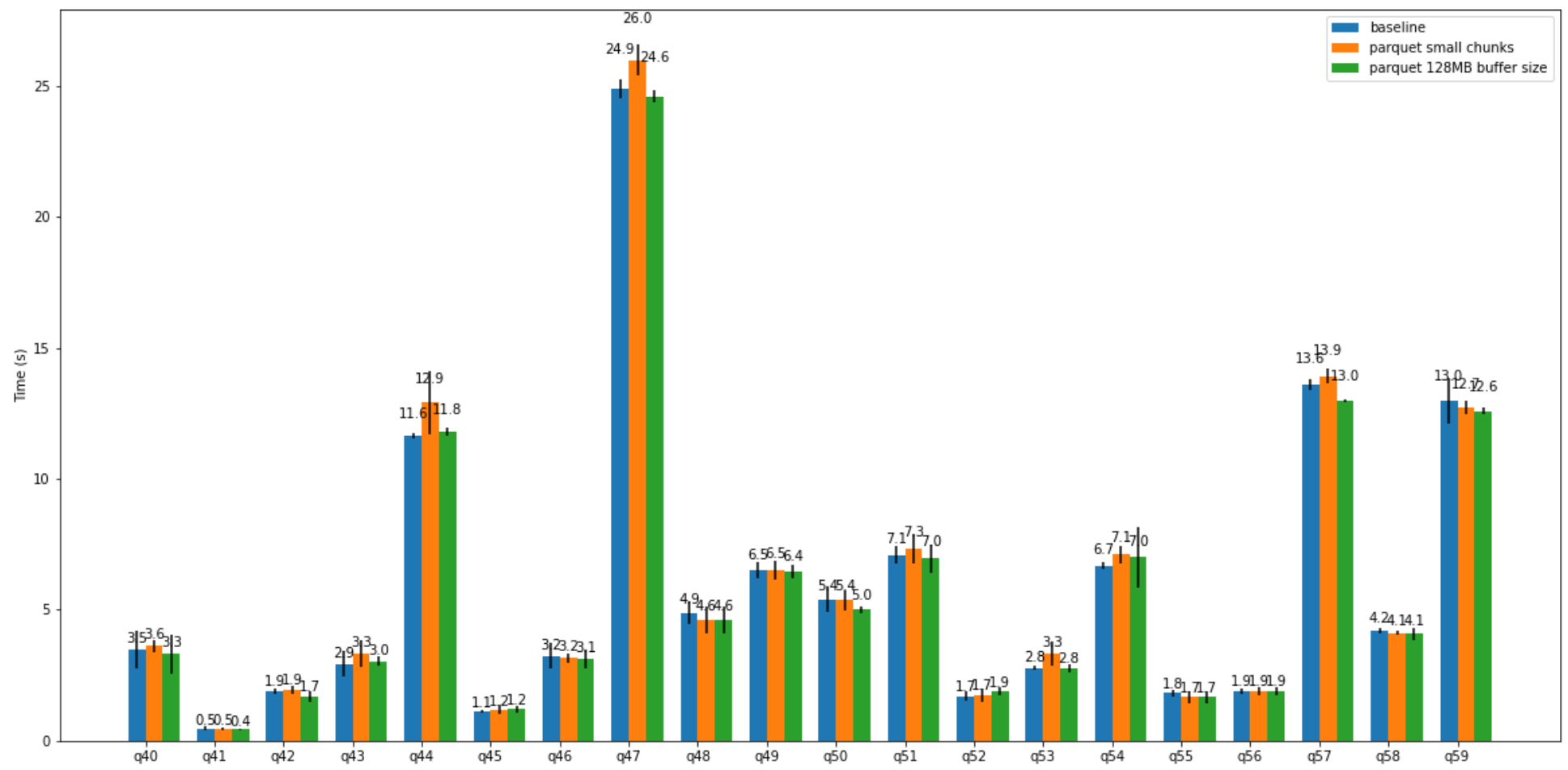
```
count 22
mean -1
std 3
min -9
25% -2
50% -1
75% 1
max 8
```

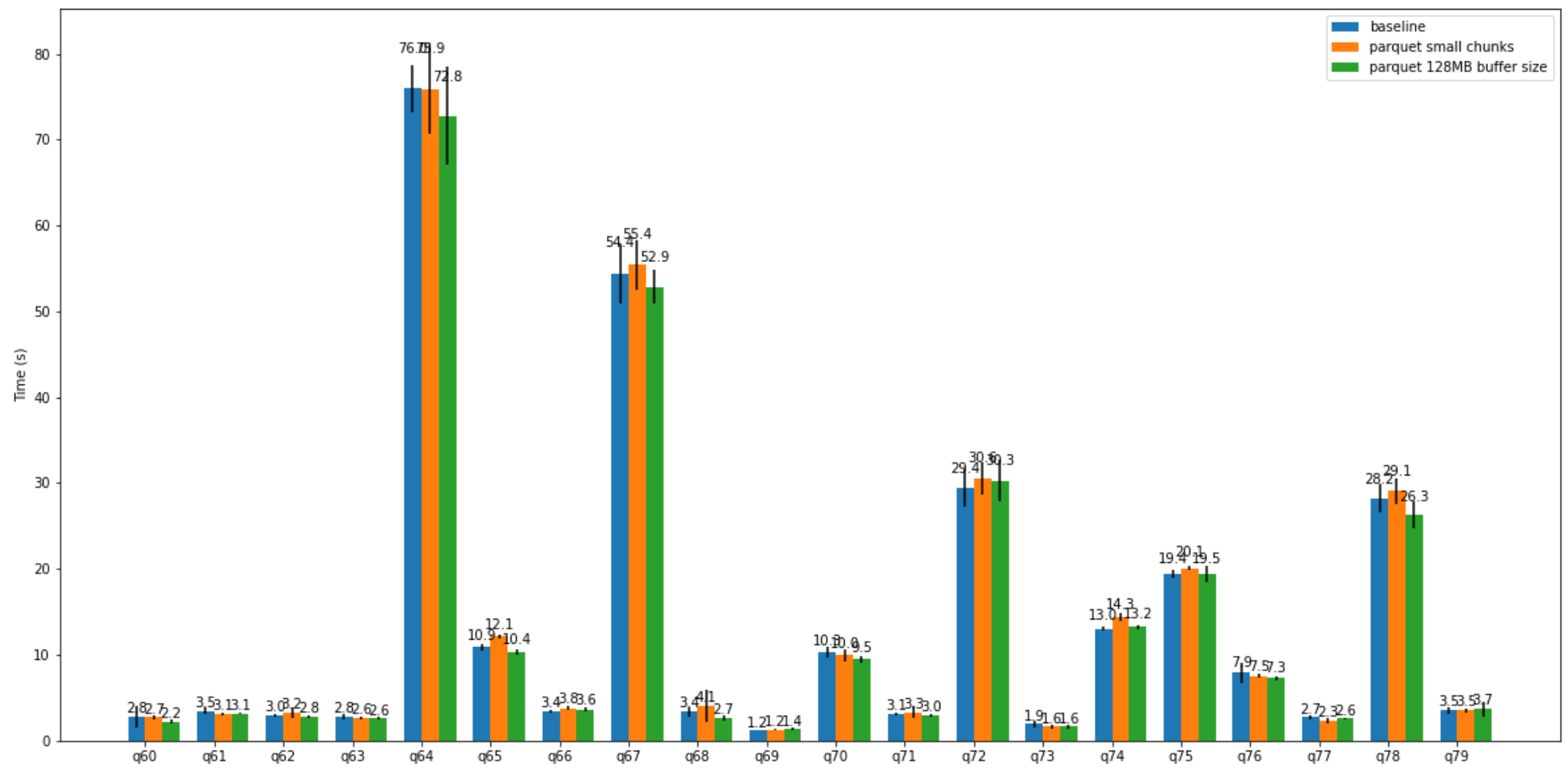
Name: % change base -> parquet 128MB buffer size, dtype: float64

## TPC-DS Comparison (DURATION)

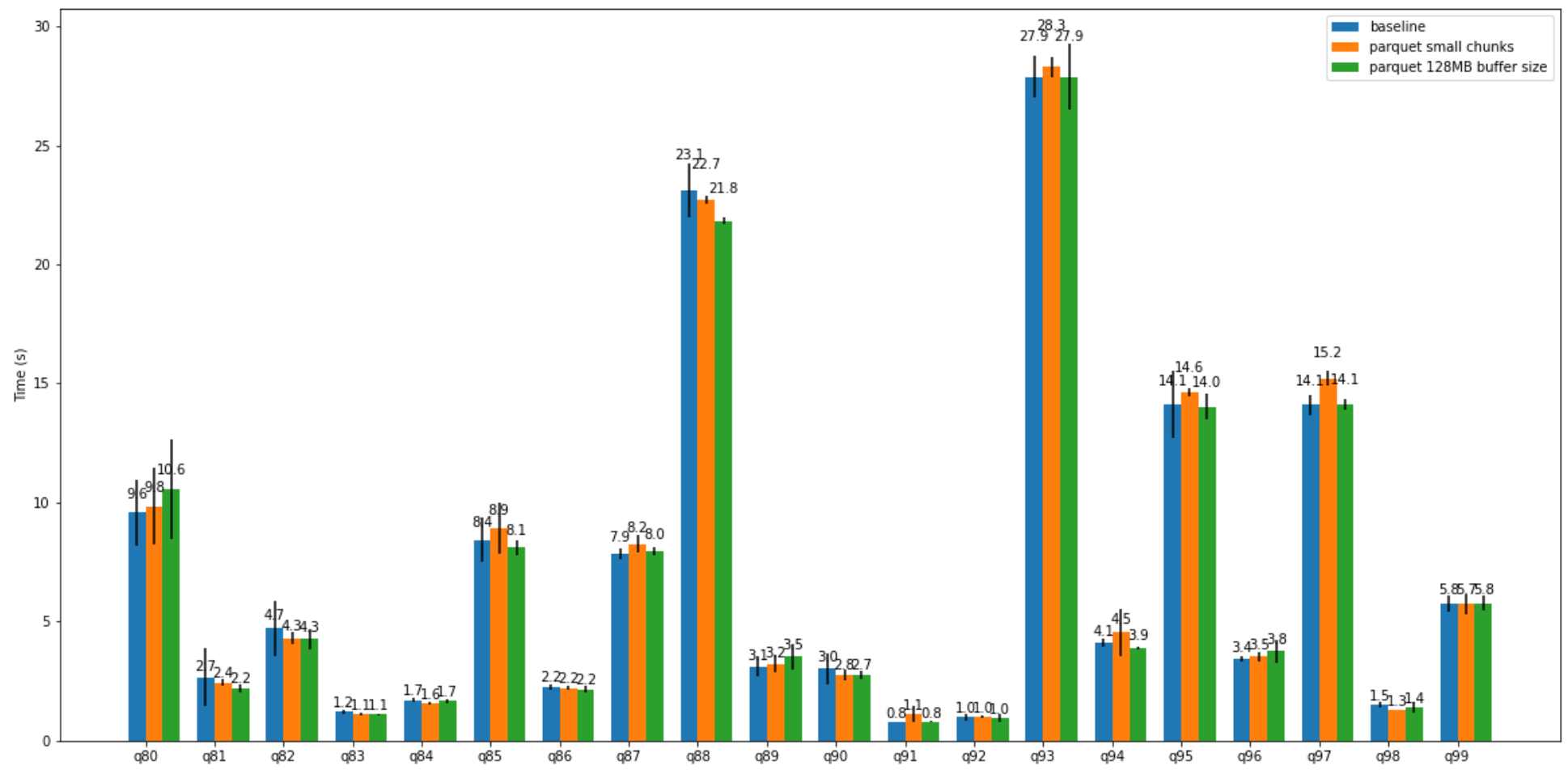


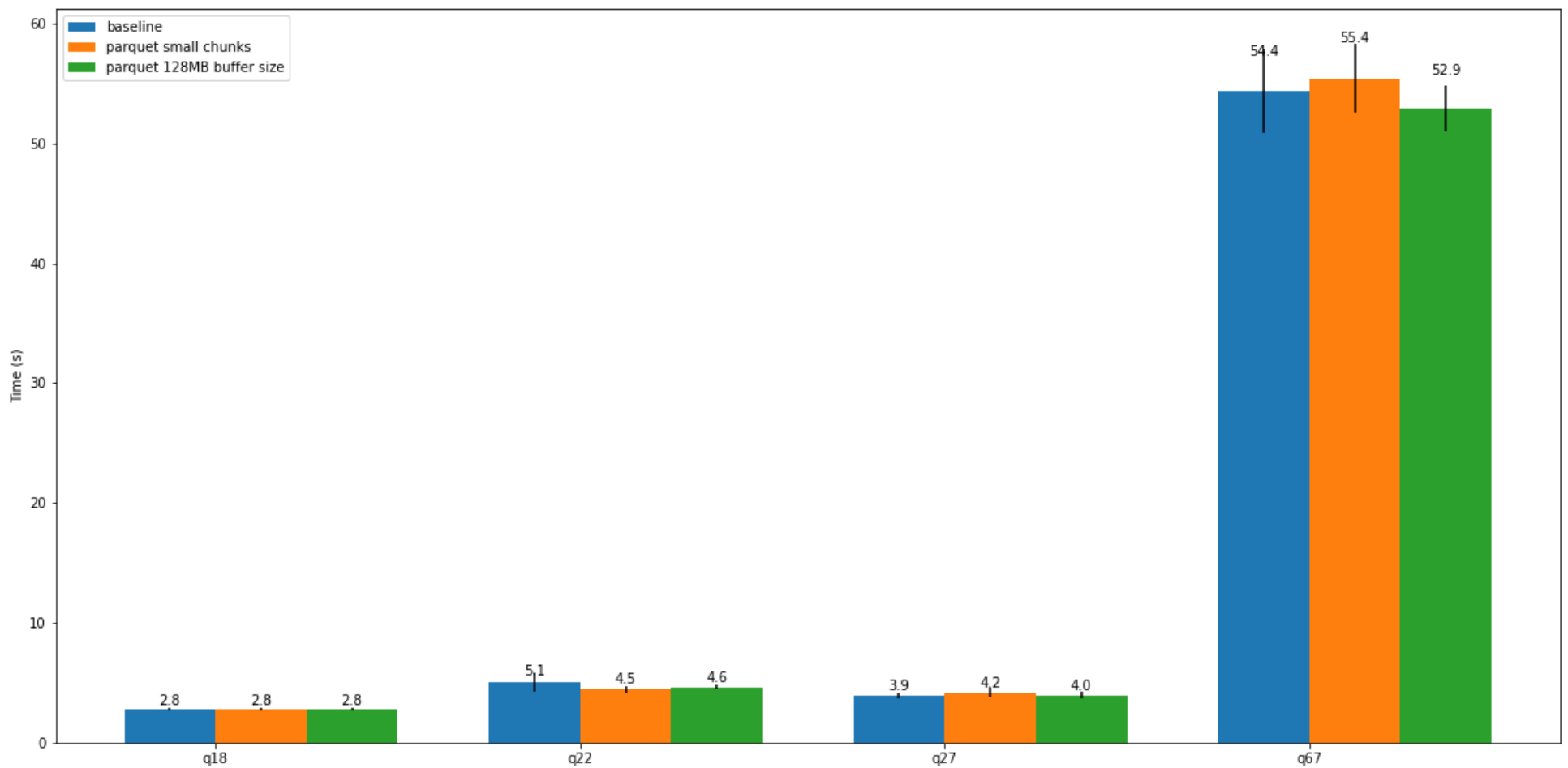












	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
21	presto/tpcds/q22	5.09	0.79	4.46	0.27	4.64	0.17	-12.35	-0.63	-8.94	15.49	6.10	3.57	0.09472
36	presto/tpcds/q37	3.16	0.97	2.70	0.14	2.83	0.50	-14.77	-0.47	-10.64	30.59	5.33	17.64	0.26929
75	presto/tpcds/q76	7.92	1.16	7.50	0.23	7.31	0.21	-5.29	-0.42	-7.68	14.69	3.04	2.93	0.40734
81	presto/tpcds/q82	4.71	1.15	4.31	0.27	4.26	0.43	-8.64	-0.41	-9.69	24.35	6.37	10.18	0.41775
76	presto/tpcds/q77	2.72	0.24	2.33	0.34	2.58	0.13	-14.10	-0.38	-5.09	8.94	14.38	5.18	0.04698
87	presto/tpcds/q88	23.12	1.14	22.74	0.17	21.82	0.15	-1.63	-0.38	-5.63	4.94	0.74	0.67	0.44147
37	presto/tpcds/q38	8.53	0.42	8.16	0.28	7.98	0.34	-4.37	-0.37	-6.39	4.91	3.49	4.20	0.10203
60	presto/tpcds/q61	3.46	0.43	3.12	0.15	3.14	0.10	-9.81	-0.34	-9.32	12.31	4.83	3.09	0.09563
69	presto/tpcds/q70	10.30	0.64	9.97	0.68	9.48	0.35	-3.28	-0.34	-8.00	6.21	6.83	3.65	0.39582
72	presto/tpcds/q73	1.93	0.32	1.63	0.22	1.62	0.22	-15.78	-0.30	-15.99	16.41	13.70	13.79	0.08292

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
89	presto/tpcds/q90	3.03	0.65	2.75	0.20	2.74	0.18	-9.24	-0.28	-9.77	21.33	7.44	6.40	0.33527
47	presto/tpcds/q48	4.89	0.43	4.62	0.53	4.62	0.51	-5.61	-0.27	-5.58	8.78	11.55	11.07	0.34963
58	presto/tpcds/q59	12.98	0.86	12.73	0.24	12.59	0.11	-1.92	-0.25	-2.97	6.63	1.89	0.87	0.50990
35	presto/tpcds/q36	3.45	0.62	3.21	0.42	3.07	0.36	-6.90	-0.24	-10.88	17.83	12.99	11.66	0.45072
80	presto/tpcds/q81	2.66	1.21	2.44	0.15	2.21	0.16	-8.27	-0.22	-16.87	45.66	6.08	7.28	0.66914
97	presto/tpcds/q98	1.50	0.10	1.29	0.02	1.41	0.21	-13.90	-0.21	-5.99	6.83	1.75	15.00	0.00065
62	presto/tpcds/q63	2.80	0.25	2.60	0.20	2.57	0.14	-6.94	-0.19	-7.92	8.82	7.64	5.52	0.16431
16	presto/tpcds/q17	5.78	0.71	5.60	0.41	5.38	0.34	-3.00	-0.17	-6.90	12.30	7.34	6.23	0.61667
28	presto/tpcds/q29	5.49	0.19	5.32	0.30	4.93	0.08	-3.02	-0.17	-10.14	3.53	5.73	1.70	0.28724
54	presto/tpcds/q55	1.81	0.13	1.67	0.23	1.67	0.24	-8.08	-0.15	-8.02	7.34	13.51	14.42	0.20005
83	presto/tpcds/q84	1.71	0.07	1.58	0.06	1.66	0.10	-7.71	-0.13	-2.83	3.94	3.77	6.07	0.00491
59	presto/tpcds/q60	2.83	1.28	2.73	0.29	2.19	0.26	-3.50	-0.10	-22.73	45.22	10.72	11.70	0.85717
82	presto/tpcds/q83	1.23	0.08	1.13	0.05	1.10	0.03	-7.85	-0.10	-10.44	6.91	4.05	3.02	0.03425
32	presto/tpcds/q33	1.51	0.06	1.42	0.07	1.46	0.07	-6.02	-0.09	-3.29	4.24	5.27	4.98	0.04723
57	presto/tpcds/q58	4.21	0.11	4.12	0.08	4.09	0.23	-2.09	-0.09	-2.73	2.58	2.03	5.58	0.14755
7	presto/tpcds/q08	2.46	0.12	2.37	0.09	2.42	0.09	-3.43	-0.08	-1.73	4.70	3.85	3.76	0.19090
45	presto/tpcds/q46	3.24	0.49	3.16	0.19	3.14	0.35	-2.42	-0.08	-3.06	15.12	6.01	11.25	0.72246
63	presto/tpcds/q64	75.98	2.75	75.93	5.26	72.79	5.71	-0.07	-0.06	-4.20	3.63	6.92	7.85	0.98191
30	presto/tpcds/q31	4.76	0.49	4.73	0.22	4.39	0.13	-0.80	-0.04	-7.91	10.39	4.72	2.98	0.86671
25	presto/tpcds/q26	3.23	0.51	3.19	0.44	3.00	0.25	-1.18	-0.04	-7.09	15.86	13.91	8.36	0.89292
49	presto/tpcds/q50	5.39	0.48	5.36	0.37	5.01	0.13	-0.59	-0.03	-7.15	8.87	6.87	2.51	0.89930
98	presto/tpcds/q99	5.76	0.33	5.73	0.42	5.78	0.32	-0.41	-0.02	0.37	5.65	7.27	5.55	0.91541
85	presto/tpcds/q86	2.24	0.11	2.22	0.08	2.16	0.16	-0.84	-0.02	-3.57	4.89	3.82	7.24	0.74578
78	presto/tpcds/q79	3.52	0.42	3.51	0.23	3.72	0.87	-0.36	-0.01	5.58	12.02	6.55	23.28	0.94987
40	presto/tpcds/q41	0.46	0.07	0.46	0.03	0.43	0.04	-1.90	-0.01	-8.01	14.16	7.46	9.38	0.77584
29	presto/tpcds/q30	1.55	0.03	1.54	0.06	1.50	0.04	-0.18	-0.00	-3.33	1.79	4.04	2.61	0.92109
20	presto/tpcds/q21	1.41	0.02	1.41	0.03	1.55	0.23	0.31	0.00	10.24	1.49	1.81	14.94	0.75448
11	presto/tpcds/q12	0.59	0.22	0.60	0.22	0.45	0.03	1.91	0.01	-23.40	37.59	36.33	6.94	0.93102
55	presto/tpcds/q56	1.88	0.10	1.90	0.16	1.88	0.14	0.75	0.01	0.14	5.32	8.32	7.32	0.85631
19	presto/tpcds/q20	0.79	0.36	0.81	0.15	0.61	0.15	2.08	0.02	-23.67	45.07	18.40	25.45	0.91906
91	presto/tpcds/q92	0.99	0.13	1.01	0.07	0.95	0.17	1.97	0.02	-3.43	12.67	7.09	17.41	0.74696
34	presto/tpcds/q35	2.71	0.61	2.73	0.74	2.30	0.25	0.79	0.02	-15.21	22.52	26.94	10.84	0.95748

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
31	presto/tpcds/q32	1.45	0.32	1.47	0.14	1.47	0.18	1.77	0.03	1.50	22.41	9.68	12.08	0.86259
41	presto/tpcds/q42	1.91	0.10	1.93	0.15	1.69	0.22	1.40	0.03	-11.26	5.26	7.58	13.04	0.72074
68	presto/tpcds/q69	1.21	0.07	1.24	0.08	1.38	0.15	2.51	0.03	13.69	5.69	6.15	10.92	0.48553
48	presto/tpcds/q49	6.50	0.31	6.54	0.36	6.45	0.26	0.56	0.04	-0.83	4.83	5.50	4.07	0.85450
51	presto/tpcds/q52	1.70	0.19	1.74	0.23	1.87	0.16	2.44	0.04	10.04	11.18	13.52	8.36	0.74429
17	presto/tpcds/q18	2.78	0.10	2.82	0.11	2.79	0.15	1.53	0.04	0.45	3.55	3.74	5.40	0.48709
9	presto/tpcds/q10	1.34	0.04	1.38	0.08	1.30	0.14	3.30	0.04	-2.30	3.05	6.16	10.71	0.27907
18	presto/tpcds/q19	2.15	0.09	2.19	0.08	2.06	0.06	2.11	0.05	-4.10	4.10	3.48	3.00	0.36242
15	presto/tpcds/q16	5.14	0.28	5.19	0.26	5.06	0.29	0.92	0.05	-1.60	5.51	4.97	5.70	0.76918
44	presto/tpcds/q45	1.13	0.05	1.18	0.17	1.20	0.15	4.89	0.06	6.26	4.82	14.43	12.53	0.46834
95	presto/tpcds/q96	3.43	0.10	3.53	0.18	3.75	0.49	3.08	0.11	9.61	2.93	5.05	12.98	0.23594
5	presto/tpcds/q06	2.04	0.09	2.16	0.17	1.96	0.22	5.95	0.12	-3.94	4.29	8.06	11.12	0.15784
88	presto/tpcds/q89	3.11	0.42	3.23	0.37	3.54	0.54	3.94	0.12	14.01	13.58	11.51	15.34	0.60510
39	presto/tpcds/q40	3.48	0.70	3.61	0.25	3.30	0.72	3.69	0.13	-5.19	20.21	6.89	21.86	0.68185
0	presto/tpcds/q01	2.59	0.09	2.72	0.07	2.57	0.07	5.07	0.13	-0.75	3.47	2.52	2.91	0.01738
38	presto/tpcds/q39	3.18	0.05	3.36	0.24	3.06	0.03	5.67	0.18	-3.73	1.69	7.29	1.05	0.10847
70	presto/tpcds/q71	3.10	0.17	3.31	0.72	2.97	0.15	6.60	0.20	-4.15	5.44	21.67	4.97	0.51101
2	presto/tpcds/q03	2.02	0.20	2.25	0.95	1.96	0.18	11.32	0.23	-3.05	9.79	42.40	9.37	0.57772
50	presto/tpcds/q51	7.09	0.33	7.32	0.57	6.97	0.54	3.24	0.23	-1.69	4.70	7.82	7.74	0.41516
61	presto/tpcds/q62	3.00	0.16	3.23	0.64	2.79	0.21	7.92	0.24	-6.83	5.24	19.65	7.63	0.39531
79	presto/tpcds/q80	9.59	1.39	9.85	1.62	10.56	2.07	2.65	0.25	10.02	14.47	16.41	19.61	0.77595
26	presto/tpcds/q27	3.93	0.23	4.19	0.39	3.97	0.27	6.68	0.26	1.21	5.86	9.38	6.84	0.18850
33	presto/tpcds/q34	2.14	0.30	2.41	0.47	2.16	0.35	12.65	0.27	0.90	14.17	19.52	16.32	0.26371
4	presto/tpcds/q05	6.50	0.56	6.77	0.40	6.09	0.30	4.19	0.27	-6.26	8.60	5.91	5.00	0.35461
14	presto/tpcds/q15	1.37	0.29	1.66	0.32	1.15	0.22	21.08	0.29	-15.76	20.83	19.38	18.66	0.13084
6	presto/tpcds/q07	4.43	0.13	4.72	0.46	4.70	0.44	6.75	0.30	6.30	3.00	9.64	9.43	0.15374
12	presto/tpcds/q13	6.91	0.92	7.22	0.66	6.60	0.63	4.47	0.31	-4.50	13.25	9.16	9.57	0.51789
56	presto/tpcds/q57	13.61	0.22	13.93	0.28	13.00	0.06	2.33	0.32	-4.49	1.58	2.01	0.43	0.05242
90	presto/tpcds/q91	0.77	0.01	1.12	0.33	0.81	0.02	44.71	0.35	4.11	1.00	29.70	2.19	0.02900
1	presto/tpcds/q02	9.62	0.06	9.98	0.11	9.66	0.06	3.80	0.37	0.46	0.60	1.12	0.66	0.00003
42	presto/tpcds/q43	2.93	0.49	3.31	0.51	3.03	0.18	13.01	0.38	3.25	16.77	15.32	5.83	0.21550
86	presto/tpcds/q87	7.87	0.22	8.25	0.37	7.98	0.16	4.87	0.38	1.40	2.78	4.52	2.03	0.05483

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
65	presto/tpcds/q66	3.41	0.21	3.80	0.29	3.64	0.24	11.48	0.39	6.65	6.16	7.65	6.63	0.02331
92	presto/tpcds/q93	27.88	0.87	28.29	0.41	27.89	1.38	1.50	0.42	0.03	3.11	1.46	4.96	0.31264
93	presto/tpcds/q94	4.11	0.15	4.54	0.98	3.90	0.07	10.63	0.44	-5.04	3.68	21.61	1.76	0.30675
53	presto/tpcds/q54	6.68	0.13	7.11	0.32	7.01	1.16	6.55	0.44	4.95	1.94	4.53	16.55	0.01148
84	presto/tpcds/q85	8.44	0.92	8.91	1.07	8.11	0.33	5.57	0.47	-3.91	10.89	11.97	4.06	0.43209
24	presto/tpcds/q25	3.77	0.19	4.25	0.26	3.91	0.49	12.61	0.48	3.59	5.12	6.20	12.50	0.00514
10	presto/tpcds/q11	21.32	0.53	21.82	0.45	20.94	0.35	2.37	0.51	-1.75	2.50	2.05	1.65	0.10558
94	presto/tpcds/q95	14.12	1.40	14.63	0.16	14.03	0.55	3.66	0.52	-0.59	9.89	1.12	3.92	0.38986
52	presto/tpcds/q53	2.78	0.08	3.31	0.47	2.75	0.16	19.26	0.53	-0.81	2.99	14.06	5.67	0.01979
74	presto/tpcds/q75	19.41	0.52	20.11	0.25	19.45	0.94	3.58	0.70	0.21	2.68	1.25	4.85	0.01450
67	presto/tpcds/q68	3.35	0.51	4.07	1.84	2.67	0.32	21.33	0.72	-20.31	15.26	45.18	11.98	0.38010
8	presto/tpcds/q09	21.90	0.75	22.72	1.22	21.57	0.48	3.72	0.81	-1.52	3.44	5.37	2.25	0.19487
77	presto/tpcds/q78	28.24	1.62	29.07	1.49	26.32	1.61	2.92	0.82	-6.79	5.72	5.14	6.11	0.38056
66	presto/tpcds/q67	54.41	3.47	55.43	2.88	52.89	1.90	1.88	1.02	-2.80	6.38	5.20	3.59	0.59041
46	presto/tpcds/q47	24.89	0.36	25.99	0.60	24.60	0.24	4.43	1.10	-1.16	1.44	2.31	0.96	0.00316
96	presto/tpcds/q97	14.10	0.42	15.21	0.30	14.13	0.23	7.94	1.12	0.23	3.00	1.95	1.61	0.00035
71	presto/tpcds/q72	29.39	2.20	30.57	1.87	30.28	2.42	4.03	1.18	3.04	7.47	6.11	8.00	0.33808
64	presto/tpcds/q65	10.89	0.43	12.13	0.23	10.36	0.32	11.43	1.24	-4.85	3.93	1.92	3.05	0.00009
43	presto/tpcds/q44	11.65	0.09	12.91	1.19	11.80	0.17	10.84	1.26	1.30	0.74	9.22	1.42	0.02683
73	presto/tpcds/q74	13.05	0.25	14.33	0.48	13.24	0.25	9.87	1.29	1.52	1.92	3.38	1.92	0.00018
23	presto/tpcds/q24	23.54	0.41	25.03	0.46	23.67	0.56	6.33	1.49	0.56	1.74	1.83	2.35	0.00014
13	presto/tpcds/q14	57.68	0.58	59.46	0.60	57.21	0.69	3.08	1.78	-0.81	1.01	1.01	1.20	0.00040
3	presto/tpcds/q04	36.65	0.63	38.49	0.59	35.94	0.36	5.02	1.84	-1.96	1.72	1.52	0.99	0.00038
27	presto/tpcds/q28	25.94	0.26	28.21	0.79	25.03	0.91	8.77	2.27	-3.51	1.00	2.80	3.62	0.00005
22	presto/tpcds/q23	65.72	0.90	69.99	1.16	62.80	0.27	6.50	4.27	-4.44	1.37	1.66	0.44	0.00003

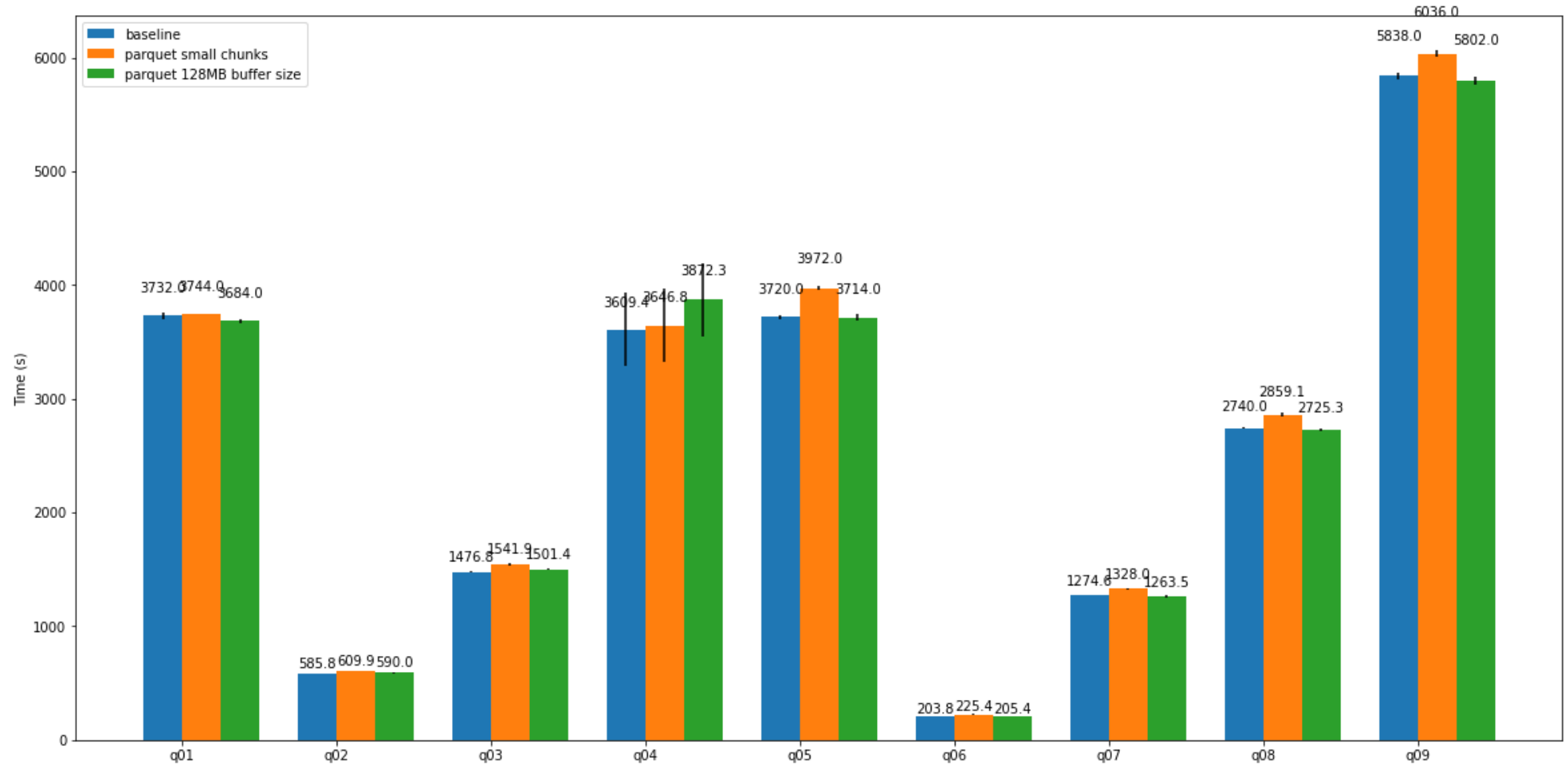
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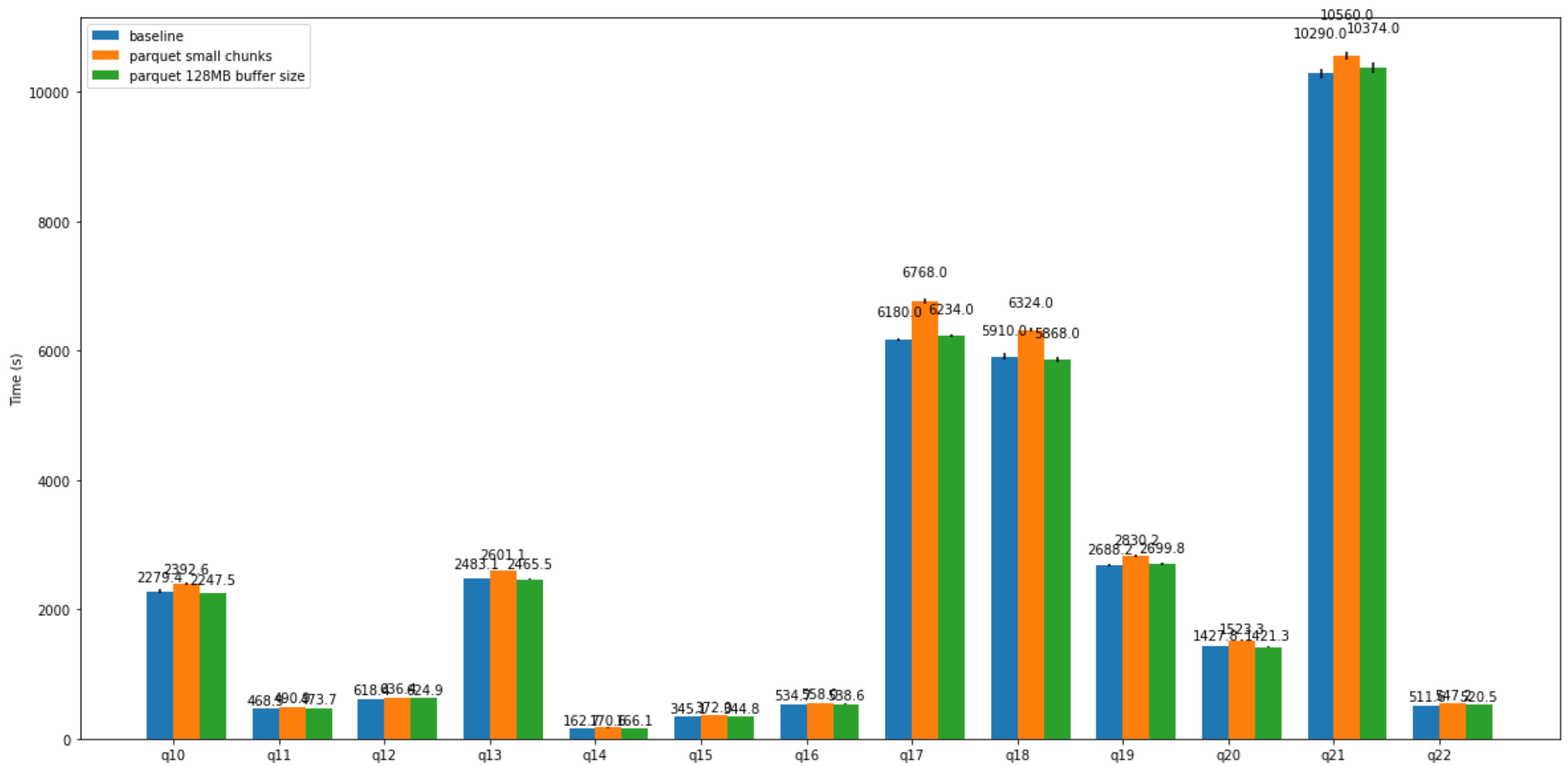
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75%       5
max      45
Name: % change, dtype: float64
count    99
mean     -3
std       7

```

min -24  
25% -7  
50% -3  
75% 0  
max 14  
Name: % change base -> parquet 128MB buffer size, dtype: float64

## TPC-H Comparison (CPU)





query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
0 presto/tpch/q01	3732.00	29.39	3744.00	0.00	3684.00	18.59	0.32	12.00	-1.29	0.79	0.00	0.50	0.34089
3 presto/tpch/q04	3609.40	322.92	3646.80	319.54	3872.30	322.38	1.04	37.40	7.28	8.95	8.76	8.33	0.84423
20 presto/tpch/q21	10290.00	66.05	10560.00	63.04	10374.00	83.40	2.62	270.00	0.82	0.64	0.60	0.80	0.00003
11 presto/tpch/q12	618.40	1.55	636.40	1.73	624.90	1.35	2.91	18.00	1.05	0.25	0.27	0.22	0.00000
8 presto/tpch/q09	5838.00	27.10	6036.00	29.39	5802.00	35.39	3.39	198.00	-0.62	0.46	0.49	0.61	0.00000
1 presto/tpch/q02	585.80	0.98	609.90	2.48	590.00	5.06	4.11	24.10	0.72	0.17	0.41	0.86	0.00000
6 presto/tpch/q07	1274.60	2.91	1328.00	8.56	1263.50	14.75	4.19	53.40	-0.87	0.23	0.64	1.17	0.00000
7 presto/tpch/q08	2740.00	6.06	2859.10	16.94	2725.30	15.19	4.35	119.10	-0.54	0.22	0.59	0.56	0.00000
15 presto/tpch/q16	534.70	2.19	558.00	1.86	538.60	1.59	4.36	23.30	0.73	0.41	0.33	0.30	0.00000
2 presto/tpch/q03	1476.80	4.32	1541.90	8.44	1501.40	7.65	4.41	65.10	1.67	0.29	0.55	0.51	0.00000

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
10	presto/tpch/q11	468.90	1.73	490.90	5.14	473.70	0.63	4.69	22.00	1.02	0.37	1.05	0.13	0.00000
12	presto/tpch/q13	2483.10	4.96	2601.10	8.45	2465.50	11.91	4.75	118.00	-0.71	0.20	0.33	0.48	0.00000
13	presto/tpch/q14	162.70	3.25	170.60	3.37	166.10	2.09	4.86	7.90	2.09	2.00	1.97	1.26	0.00203
9	presto/tpch/q10	2279.40	31.13	2392.60	15.84	2247.50	4.16	4.97	113.20	-1.40	1.37	0.66	0.19	0.00001
18	presto/tpch/q19	2688.20	23.69	2830.20	18.18	2699.80	15.77	5.28	142.00	0.43	0.88	0.64	0.58	0.00000
19	presto/tpch/q20	1427.80	2.07	1523.30	4.97	1421.30	3.75	6.69	95.50	-0.46	0.14	0.33	0.26	0.00000
4	presto/tpch/q05	3720.00	18.59	3972.00	18.59	3714.00	27.10	6.77	252.00	-0.16	0.50	0.47	0.73	0.00000
21	presto/tpch/q22	511.60	1.24	547.20	1.82	520.50	1.12	6.96	35.60	1.74	0.24	0.33	0.22	0.00000
17	presto/tpch/q18	5910.00	47.85	6324.00	37.18	5868.00	39.44	7.01	414.00	-0.71	0.81	0.59	0.67	0.00000
14	presto/tpch/q15	345.10	1.16	372.00	0.76	344.80	0.82	7.79	26.90	-0.09	0.34	0.20	0.24	0.00000
16	presto/tpch/q17	6180.00	18.59	6768.00	39.44	6234.00	27.10	9.51	588.00	0.87	0.30	0.58	0.43	0.00000
5	presto/tpch/q06	203.80	0.31	225.40	1.73	205.40	0.31	10.60	21.60	0.79	0.15	0.77	0.15	0.00000

```
count 22
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std 2
min 0
25% 4
50% 5
75% 7
max 11
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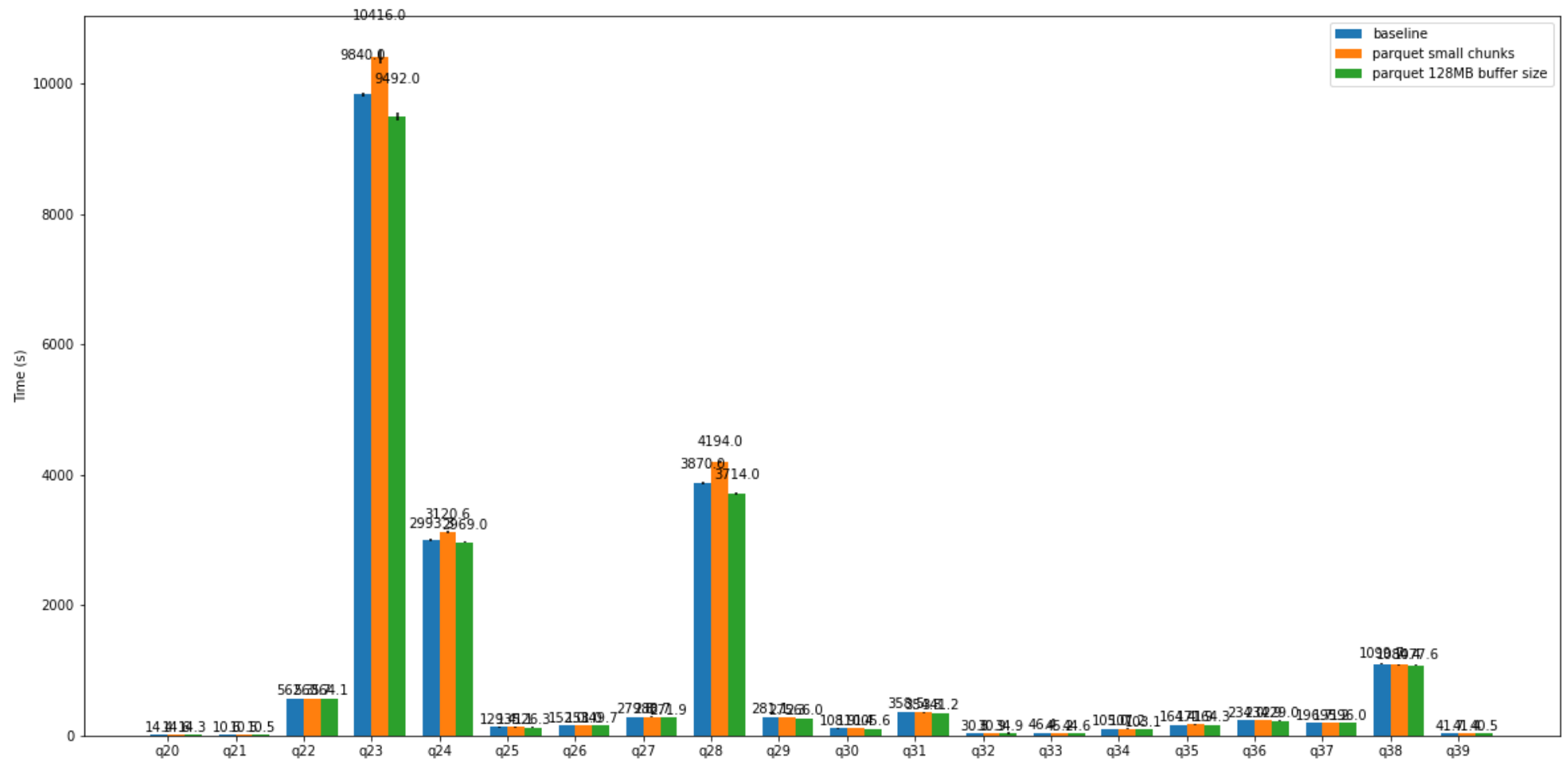
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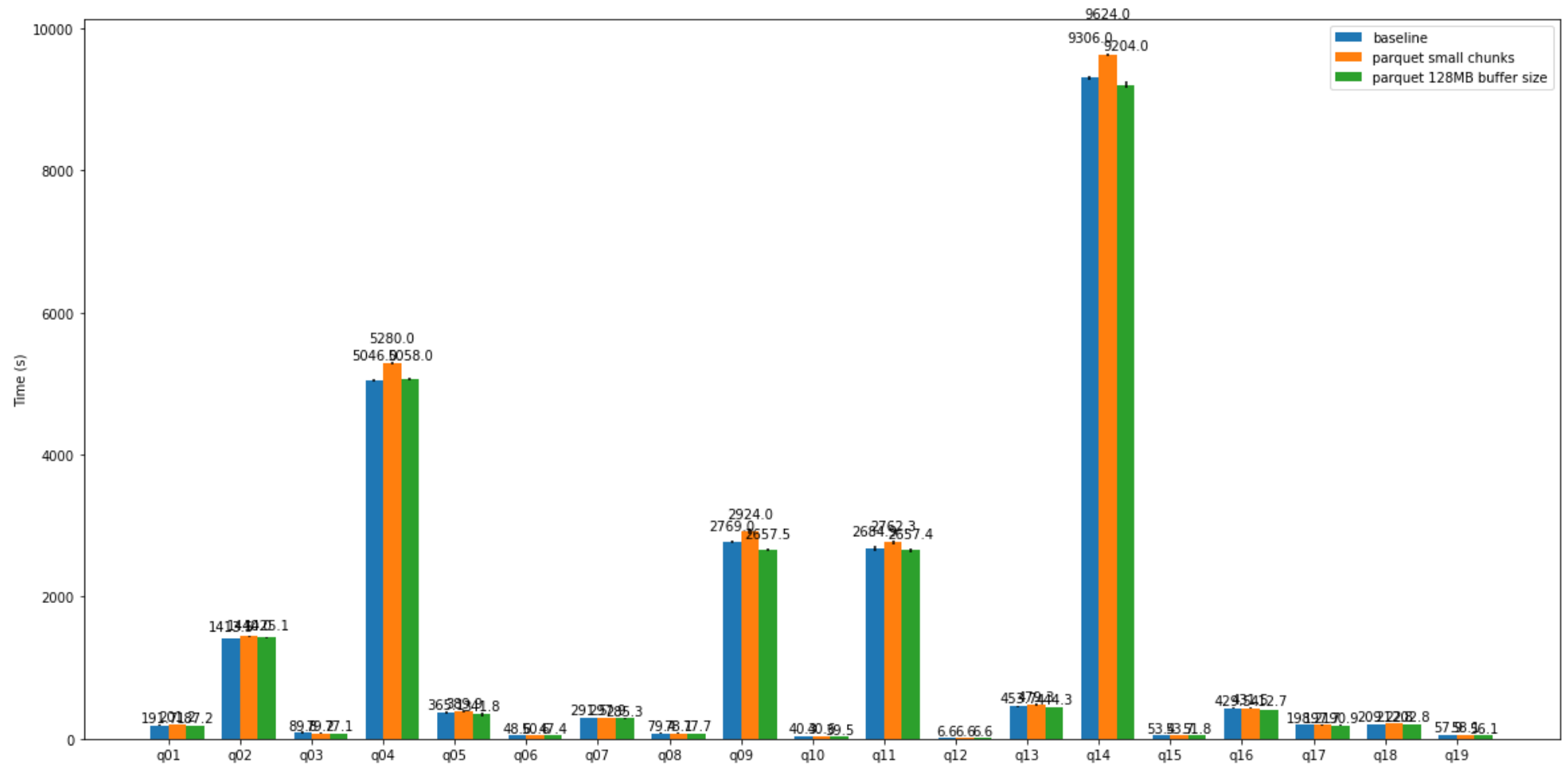
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std 2
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25% -1
50% 1
75% 1
max 7
```

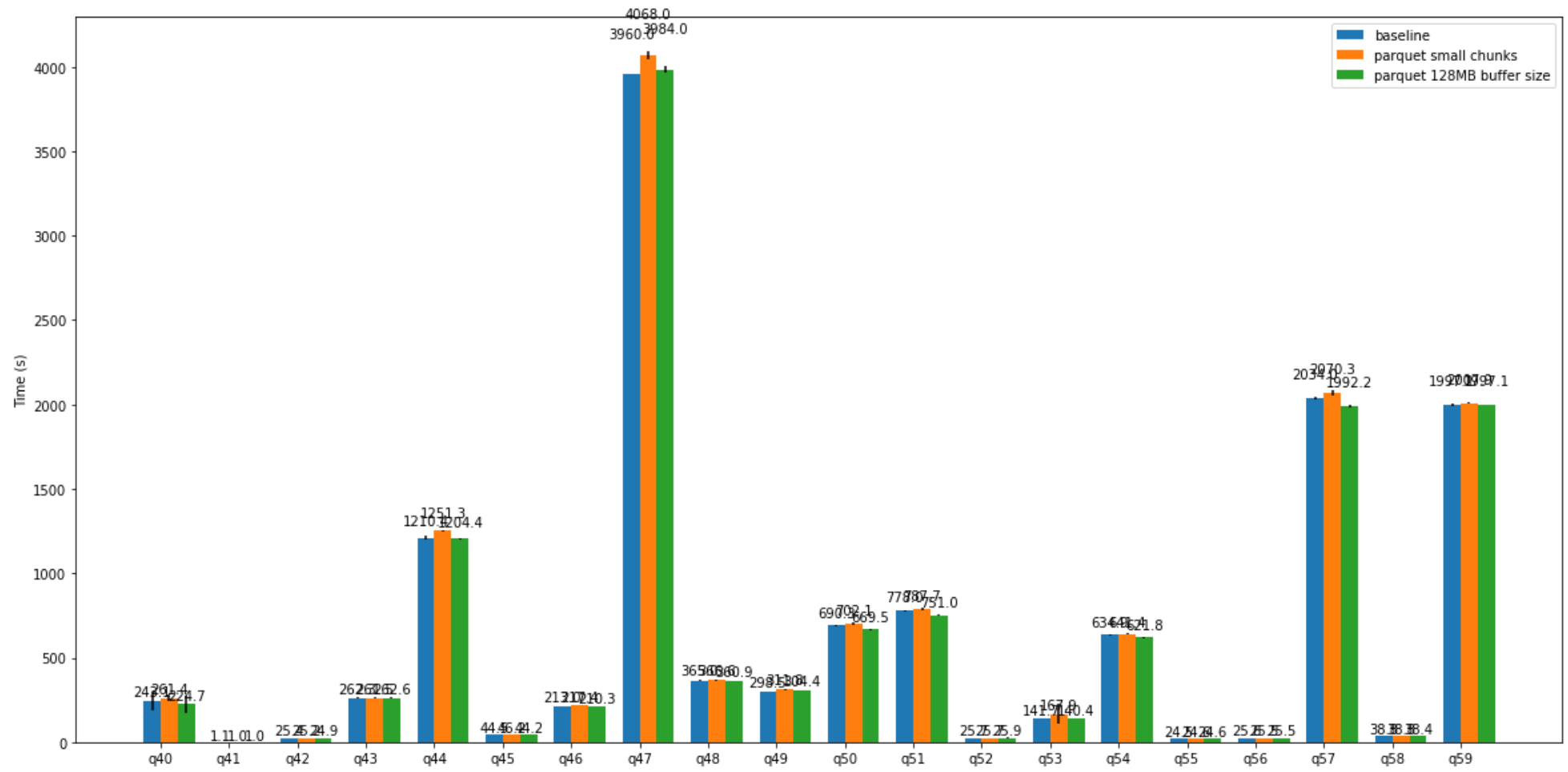
Name: % change base -> parquet 128MB buffer size, dtype: float64

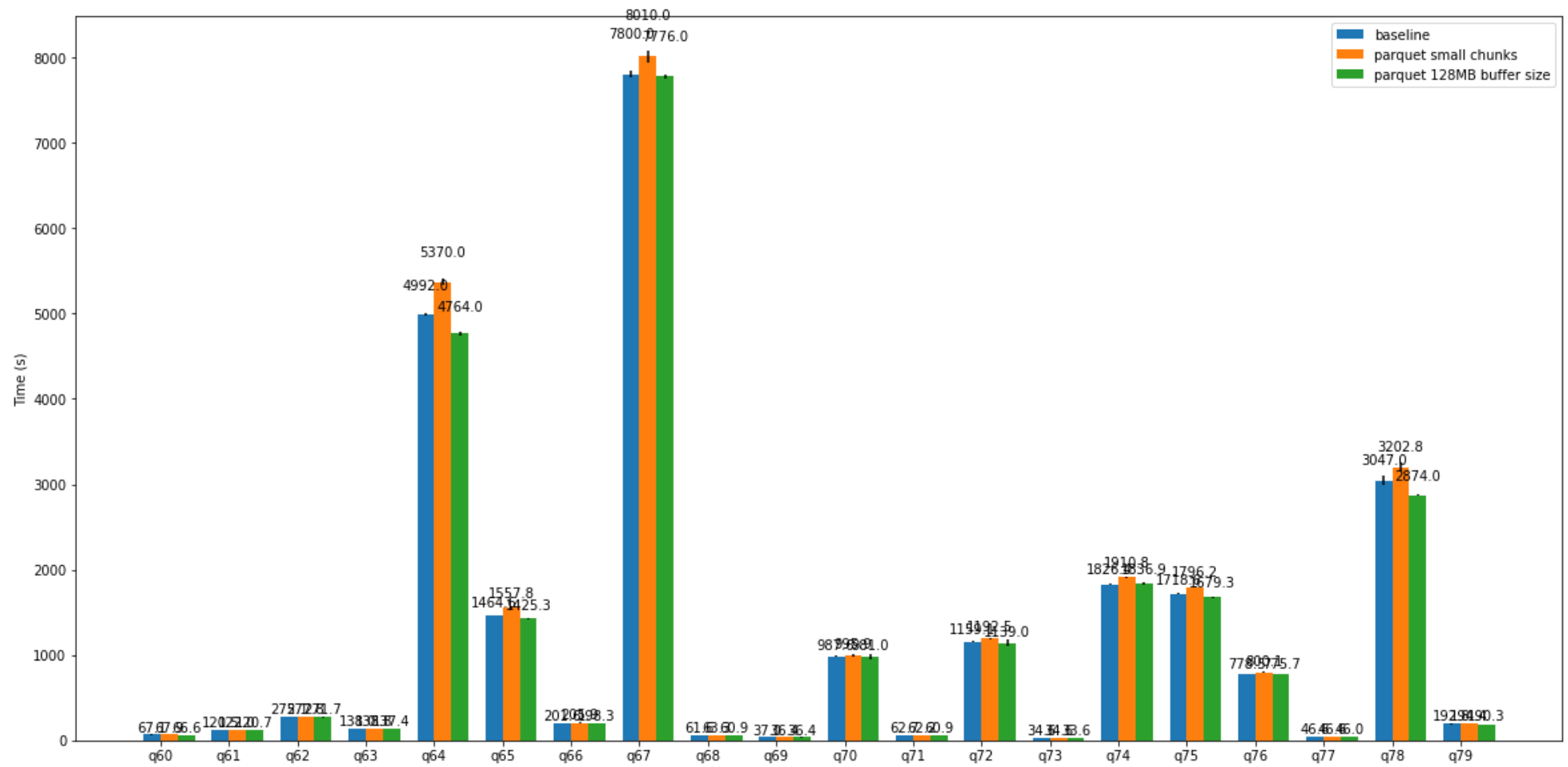
## TPC-DS Comparison (CPU)

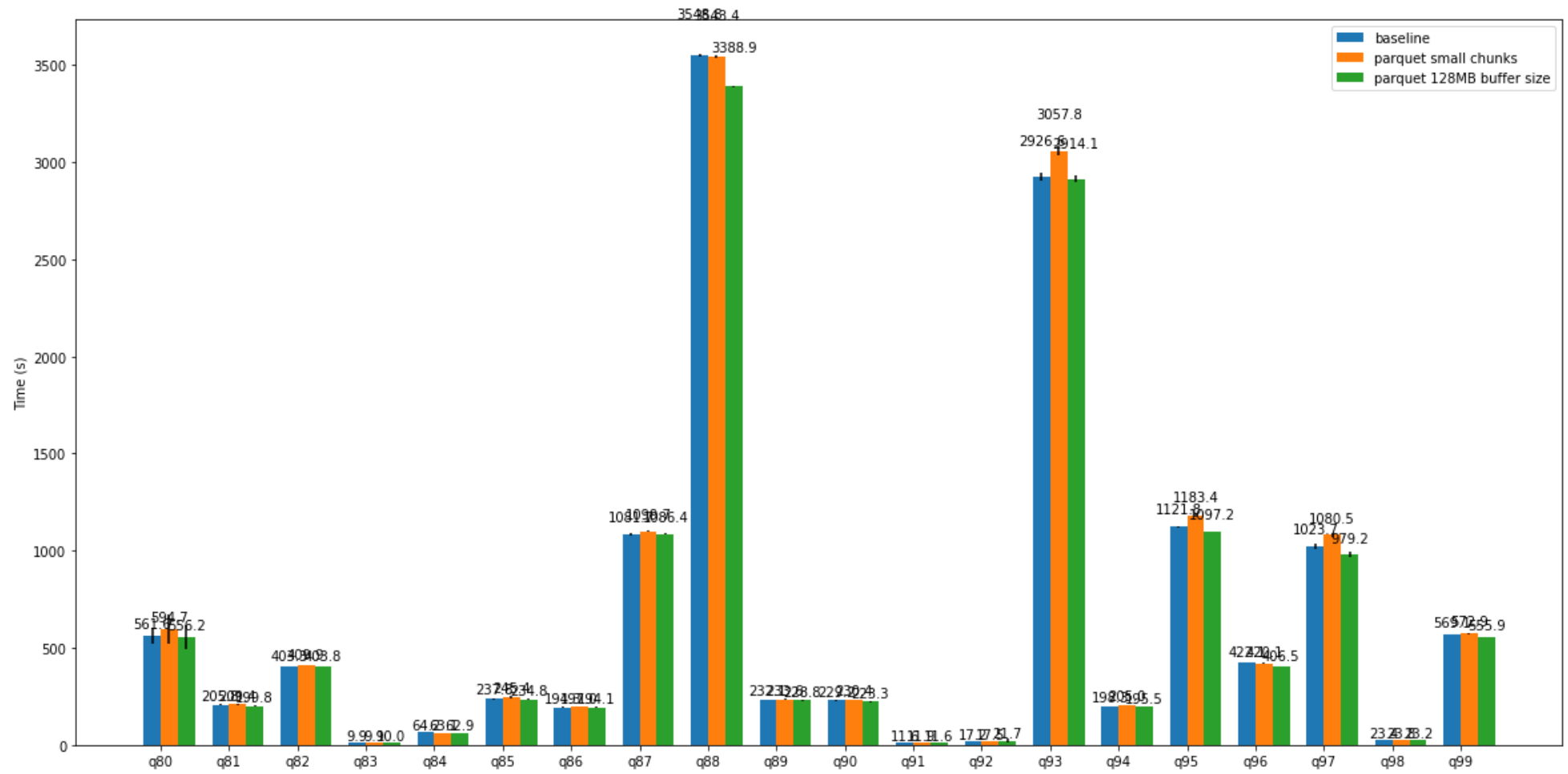


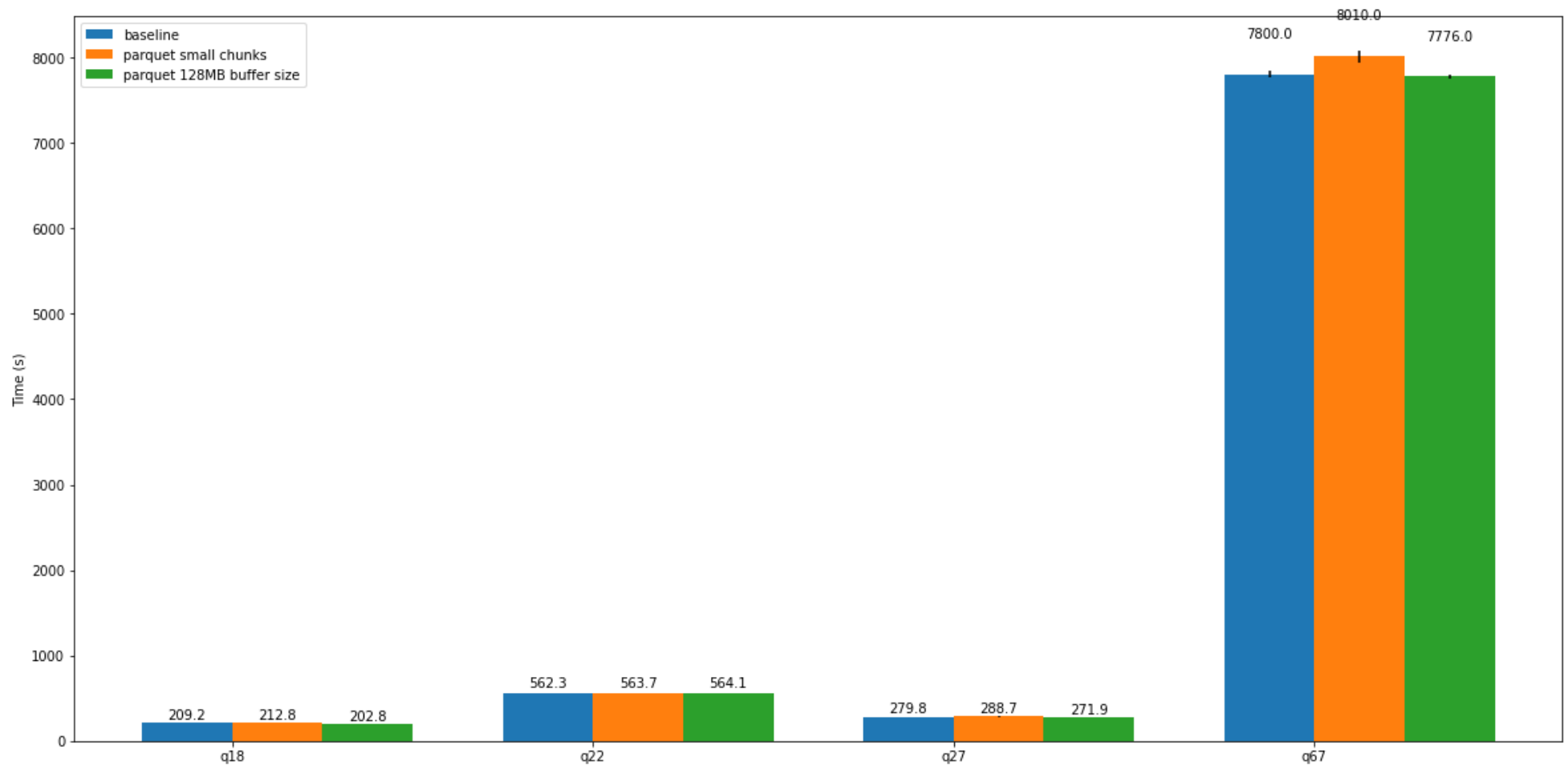












query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
2 presto/tpcds/q03	89.80	26.56	79.20	1.37	77.10	0.33	-11.80	-10.60	-14.14	29.57	1.73	0.43	0.35189
40 presto/tpcds/q41	1.08	0.01	1.04	0.01	1.04	0.01	-3.71	-0.04	-3.09	0.70	1.28	0.80	0.00008
32 presto/tpcds/q33	46.37	0.17	45.16	0.33	44.60	0.19	-2.60	-1.20	-3.81	0.36	0.73	0.43	0.00001
28 presto/tpcds/q29	281.10	4.60	275.30	1.54	266.00	0.90	-2.06	-5.80	-5.37	1.64	0.56	0.34	0.01502
68 presto/tpcds/q69	37.04	0.51	36.38	0.20	36.39	0.84	-1.77	-0.65	-1.74	1.37	0.54	2.30	0.01462
83 presto/tpcds/q84	64.20	0.00	63.10	0.24	62.90	0.24	-1.71	-1.10	-2.02	0.00	0.39	0.39	0.00000
7 presto/tpcds/q08	79.40	2.67	78.10	2.06	77.70	2.10	-1.64	-1.30	-2.14	3.37	2.64	2.71	0.36761
37 presto/tpcds/q38	1099.70	4.79	1084.40	5.97	1077.60	4.90	-1.39	-15.30	-2.01	0.44	0.55	0.46	0.00063
30 presto/tpcds/q31	358.50	5.86	354.80	4.45	341.20	2.39	-1.03	-3.70	-4.83	1.64	1.25	0.70	0.24649
70 presto/tpcds/q71	62.69	1.95	62.18	1.88	60.94	2.32	-0.81	-0.51	-2.78	3.10	3.02	3.80	0.65477

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
36	presto/tpcds/q37	196.70	0.59	195.20	0.90	196.00	1.18	-0.76	-1.50	-0.36	0.30	0.46	0.60	0.00671
20	presto/tpcds/q21	10.60	0.07	10.52	0.09	10.47	0.08	-0.71	-0.08	-1.18	0.68	0.81	0.79	0.13005
38	presto/tpcds/q39	41.72	0.42	41.43	0.30	40.52	0.17	-0.70	-0.29	-2.87	1.00	0.72	0.42	0.19238
41	presto/tpcds/q42	25.35	0.32	25.17	0.15	24.89	0.16	-0.70	-0.18	-1.80	1.28	0.60	0.65	0.25425
95	presto/tpcds/q96	422.10	0.99	420.10	1.67	406.50	0.50	-0.47	-2.00	-3.70	0.23	0.40	0.12	0.03019
42	presto/tpcds/q43	262.30	2.13	261.50	2.95	262.60	2.65	-0.30	-0.80	0.11	0.81	1.13	1.01	0.60177
16	presto/tpcds/q17	198.20	3.81	197.70	6.43	190.90	7.59	-0.25	-0.50	-3.68	1.92	3.25	3.98	0.87302
55	presto/tpcds/q56	25.56	0.15	25.51	0.27	25.48	0.07	-0.19	-0.05	-0.33	0.59	1.06	0.27	0.70988
87	presto/tpcds/q88	3548.80	7.28	3543.40	7.72	3388.90	5.53	-0.15	-5.40	-4.51	0.21	0.22	0.16	0.24081
57	presto/tpcds/q58	38.83	0.26	38.82	0.61	38.39	0.34	-0.02	-0.01	-1.13	0.67	1.57	0.88	0.97605
51	presto/tpcds/q52	25.73	0.14	25.74	0.21	25.89	0.42	0.04	0.01	0.60	0.54	0.83	1.62	0.92548
76	presto/tpcds/q77	46.55	0.39	46.57	0.22	45.96	0.38	0.04	0.02	-1.27	0.84	0.47	0.83	0.91496
31	presto/tpcds/q32	30.83	1.74	30.88	0.58	34.93	13.75	0.17	0.05	13.32	5.64	1.87	39.37	0.94452
11	presto/tpcds/q12	6.59	0.03	6.60	0.05	6.56	0.02	0.18	0.01	-0.46	0.44	0.71	0.36	0.61417
72	presto/tpcds/q73	34.56	0.26	34.65	0.19	33.58	0.11	0.24	0.08	-2.86	0.76	0.54	0.32	0.54006
21	presto/tpcds/q22	562.30	2.41	563.70	2.54	564.10	2.06	0.25	1.40	0.32	0.43	0.45	0.36	0.35056
82	presto/tpcds/q83	9.91	0.26	9.94	0.37	10.00	0.53	0.34	0.03	0.98	2.65	3.74	5.25	0.86125
35	presto/tpcds/q36	234.00	3.56	234.90	2.36	229.00	0.62	0.38	0.90	-2.14	1.52	1.01	0.27	0.61706
18	presto/tpcds/q19	57.87	1.03	58.09	1.92	56.15	0.36	0.39	0.23	-2.97	1.78	3.31	0.63	0.80424
47	presto/tpcds/q48	365.00	2.88	366.60	4.07	360.90	2.96	0.44	1.60	-1.12	0.79	1.11	0.82	0.45010
15	presto/tpcds/q16	429.50	7.11	431.50	5.41	412.70	2.61	0.47	2.00	-3.91	1.66	1.25	0.63	0.59566
89	presto/tpcds/q90	229.20	1.26	230.40	1.56	223.30	1.54	0.52	1.20	-2.57	0.55	0.68	0.69	0.17395
54	presto/tpcds/q55	24.45	0.21	24.58	0.21	24.62	0.41	0.52	0.13	0.67	0.85	0.87	1.66	0.31778
58	presto/tpcds/q59	1997.10	4.84	2007.90	2.96	1997.10	1.51	0.54	10.80	0.00	0.24	0.15	0.08	0.00089
62	presto/tpcds/q63	138.00	0.00	138.80	0.82	137.40	0.38	0.58	0.80	-0.43	0.00	0.59	0.28	0.03793
14	presto/tpcds/q15	53.38	0.39	53.71	0.34	51.85	0.22	0.61	0.33	-2.88	0.73	0.63	0.43	0.15549
88	presto/tpcds/q89	232.10	1.63	233.60	2.56	228.80	0.31	0.65	1.50	-1.42	0.70	1.10	0.14	0.25428
9	presto/tpcds/q10	40.32	1.53	40.59	0.98	39.48	1.06	0.66	0.27	-2.10	3.79	2.42	2.68	0.72812
25	presto/tpcds/q26	152.00	0.82	153.00	1.37	149.70	0.63	0.66	1.00	-1.51	0.54	0.89	0.42	0.15561
98	presto/tpcds/q99	569.10	0.83	572.90	1.67	555.90	1.64	0.67	3.80	-2.32	0.15	0.29	0.30	0.00055
78	presto/tpcds/q79	192.80	1.12	194.40	1.31	190.30	0.96	0.83	1.60	-1.30	0.58	0.68	0.51	0.04642
69	presto/tpcds/q70	987.60	12.65	995.90	14.19	981.00	24.93	0.84	8.30	-0.67	1.28	1.42	2.54	0.30988

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
61	presto/tpcds/q62	275.10	3.43	277.80	2.60	271.70	5.49	0.98	2.70	-1.24	1.25	0.94	2.02	0.15556
53	presto/tpcds/q54	634.90	3.59	641.40	3.24	621.80	3.30	1.02	6.50	-2.06	0.57	0.51	0.53	0.00812
19	presto/tpcds/q20	14.40	0.34	14.56	0.10	14.32	0.08	1.10	0.16	-0.56	2.33	0.71	0.55	0.29605
59	presto/tpcds/q60	67.10	0.45	67.90	0.70	66.60	0.00	1.19	0.80	-0.75	0.67	1.03	0.00	0.04072
60	presto/tpcds/q61	120.50	4.59	122.00	2.91	120.70	3.00	1.24	1.50	0.17	3.81	2.38	2.48	0.51430
50	presto/tpcds/q51	778.00	5.56	787.70	6.77	751.00	4.08	1.25	9.70	-3.47	0.71	0.86	0.54	0.02186
29	presto/tpcds/q30	108.90	1.46	110.40	0.38	105.60	0.54	1.38	1.50	-3.03	1.34	0.34	0.51	0.03486
85	presto/tpcds/q86	194.30	1.67	197.00	0.90	194.10	1.06	1.39	2.70	-0.10	0.86	0.46	0.54	0.00592
97	presto/tpcds/q98	23.42	0.28	23.77	0.11	23.24	0.17	1.49	0.35	-0.77	1.18	0.47	0.73	0.01663
81	presto/tpcds/q82	403.30	1.49	409.90	1.34	403.80	1.00	1.64	6.60	0.12	0.37	0.33	0.25	0.00001
86	presto/tpcds/q87	1081.70	6.46	1099.70	2.90	1086.40	4.73	1.66	18.00	0.43	0.60	0.26	0.44	0.00010
49	presto/tpcds/q50	690.30	2.62	702.10	5.05	669.50	3.80	1.71	11.80	-3.01	0.38	0.72	0.57	0.00048
17	presto/tpcds/q18	209.20	0.98	212.80	1.77	202.80	2.79	1.72	3.60	-3.06	0.47	0.83	1.38	0.00141
80	presto/tpcds/q81	205.80	3.42	209.40	2.15	199.80	2.24	1.75	3.60	-2.92	1.66	1.03	1.12	0.05369
56	presto/tpcds/q57	2034.00	7.42	2070.30	16.15	1992.20	7.24	1.78	36.30	-2.06	0.36	0.78	0.36	0.00054
1	presto/tpcds/q02	1413.50	4.38	1440.00	6.42	1425.10	5.43	1.87	26.50	0.82	0.31	0.45	0.38	0.00001
91	presto/tpcds/q92	17.20	0.26	17.53	0.41	21.66	11.36	1.91	0.33	25.92	1.49	2.36	52.44	0.12967
45	presto/tpcds/q46	213.00	1.70	217.40	1.64	210.30	0.83	2.07	4.40	-1.27	0.80	0.75	0.39	0.00103
33	presto/tpcds/q34	105.00	0.76	107.20	0.90	103.10	1.03	2.10	2.20	-1.81	0.72	0.84	1.00	0.00103
65	presto/tpcds/q66	201.60	0.54	205.90	3.44	198.30	1.18	2.13	4.30	-1.64	0.27	1.67	0.60	0.01287
6	presto/tpcds/q07	291.50	2.19	297.90	4.45	285.30	1.24	2.20	6.40	-2.13	0.75	1.50	0.44	0.01020
66	presto/tpcds/q67	7800.00	37.18	8010.00	67.35	7776.00	22.77	2.69	210.00	-0.31	0.48	0.84	0.29	0.00005
46	presto/tpcds/q47	3960.00	0.00	4068.00	22.77	3984.00	18.59	2.73	108.00	0.61	0.00	0.56	0.47	0.00000
67	presto/tpcds/q68	61.60	0.90	63.30	1.64	60.90	0.50	2.76	1.70	-1.14	1.47	2.60	0.82	0.05063
75	presto/tpcds/q76	778.50	4.75	800.10	8.57	775.70	1.10	2.77	21.60	-0.36	0.61	1.07	0.14	0.00030
71	presto/tpcds/q72	1159.10	5.60	1192.50	9.96	1139.00	36.53	2.88	33.40	-1.73	0.48	0.84	3.21	0.00003
10	presto/tpcds/q11	2684.90	36.94	2762.30	26.91	2657.40	27.85	2.88	77.40	-1.02	1.38	0.97	1.05	0.00199
26	presto/tpcds/q27	279.80	2.65	288.70	3.32	271.90	0.70	3.18	8.90	-2.82	0.95	1.15	0.26	0.00044
84	presto/tpcds/q85	237.80	3.28	245.40	4.52	234.80	4.73	3.20	7.60	-1.26	1.38	1.84	2.02	0.00758
90	presto/tpcds/q91	11.57	1.89	11.95	2.25	11.56	1.79	3.27	0.38	-0.06	16.33	18.85	15.50	0.75895
93	presto/tpcds/q94	198.30	0.83	205.00	0.73	195.50	0.45	3.38	6.70	-1.41	0.42	0.35	0.23	0.00000
43	presto/tpcds/q44	1210.40	14.35	1251.30	7.39	1204.40	3.49	3.38	40.90	-0.50	1.19	0.59	0.29	0.00010



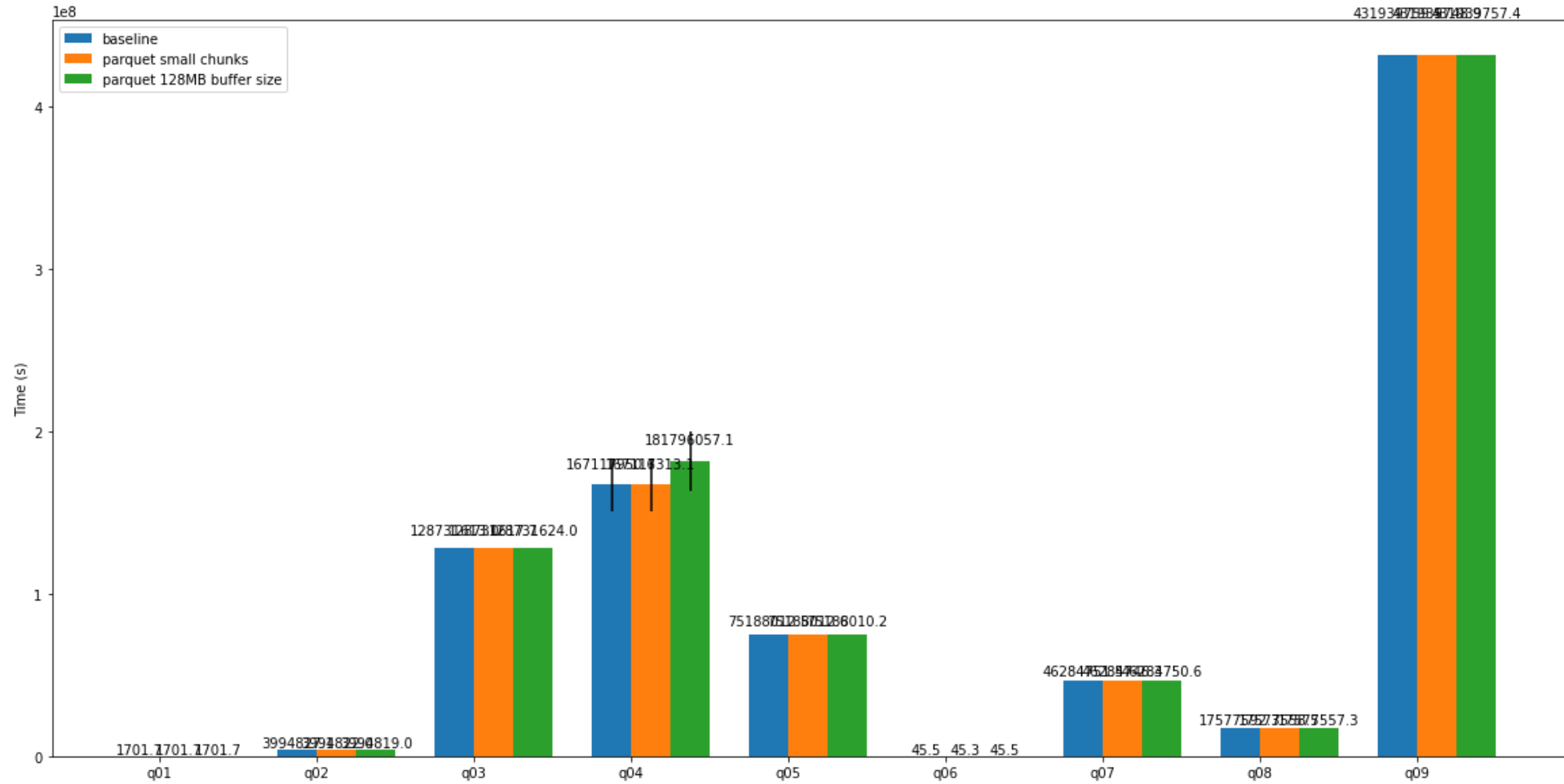


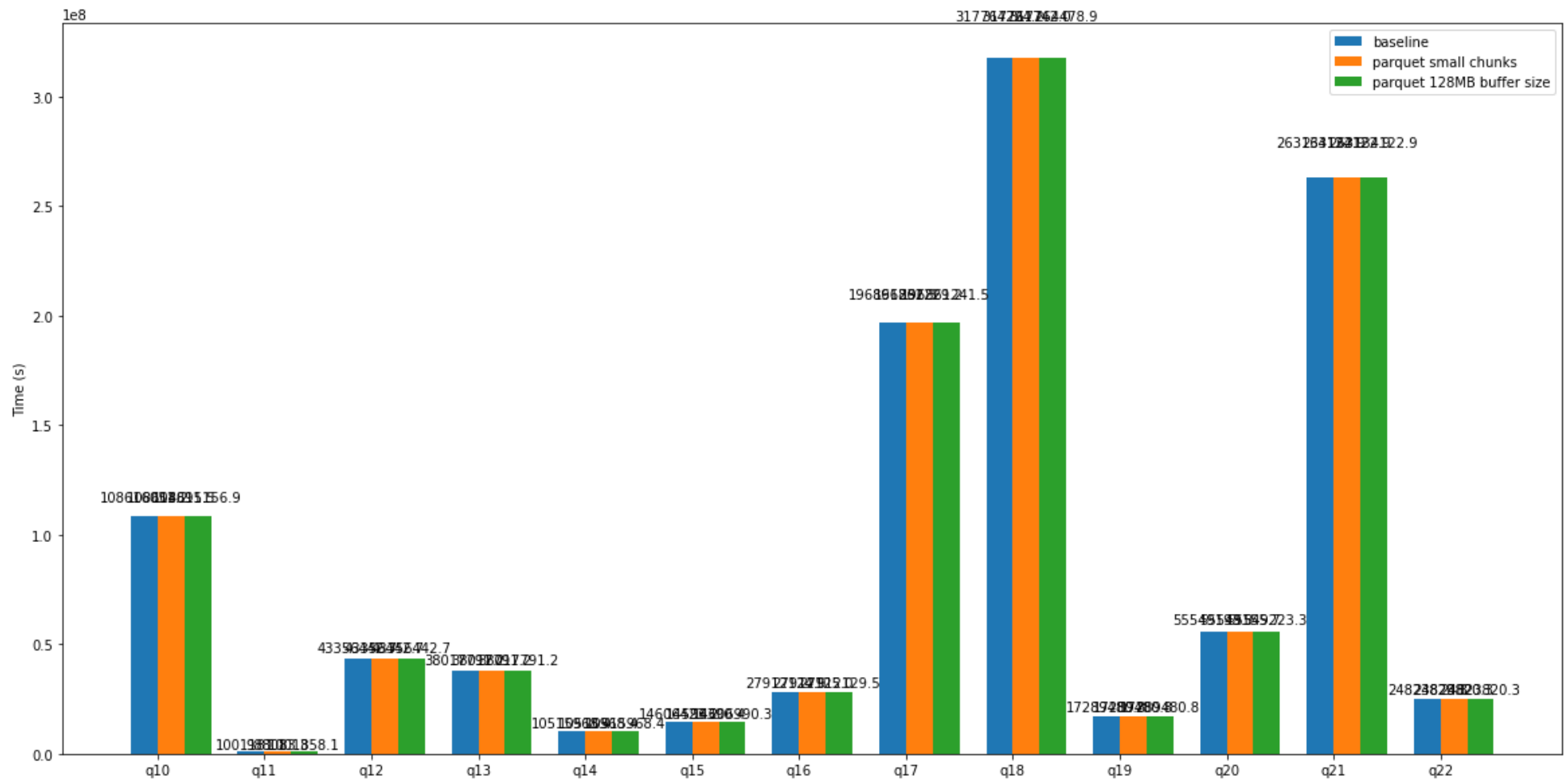
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## TPC-H Comparison (Network)





query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
10 presto/tpch/q11	1001181.07	3395.16	988083.28	3064.76	1001858.10	3234.32	-1.31	-13097.79	0.07	0.34	0.31	0.32	0.00004
5 presto/tpch/q06	45.45	0.15	45.26	0.26	45.46	0.10	-0.43	-0.20	0.02	0.33	0.58	0.22	0.14587
14 presto/tpch/q15	14606423.19	3687.15	14596390.40	1435.65	14606990.28	967.35	-0.07	-10032.79	0.00	0.03	0.01	0.01	0.00010
9 presto/tpch/q10	108616051.7	3662.10	108614891.55	2399.84	108615156.94	4008.90	-0.00	-1159.63	-0.00	0.00	0.00	0.00	0.53111
17 presto/tpch/q18	317764224.20	1184.72	317761741.96	1750.06	317764478.92	1255.00	-0.00	-2482.24	0.00	0.00	0.00	0.00	0.01647
3 presto/tpch/q04	167117950.61	16574173.76	167117313.07	16574266.10	181796057.12	18421480.46	-0.00	-637.54	8.78	9.92	9.92	10.13	0.99995
7 presto/tpch/q08	17577592.29	19.14	17577558.48	21.69	17577557.25	32.22	-0.00	-33.81	-0.00	0.00	0.00	0.00	0.01687
1 presto/tpch/q02	3994827.12	14.08	3994822.01	18.42	3994819.05	6.45	-0.00	-5.11	-0.00	0.00	0.00	0.00	0.60091
19 presto/tpch/q20	55549193.30	55.88	55549155.72	134.26	55549223.33	84.54	-0.00	-37.58	0.00	0.00	0.00	0.00	0.54097

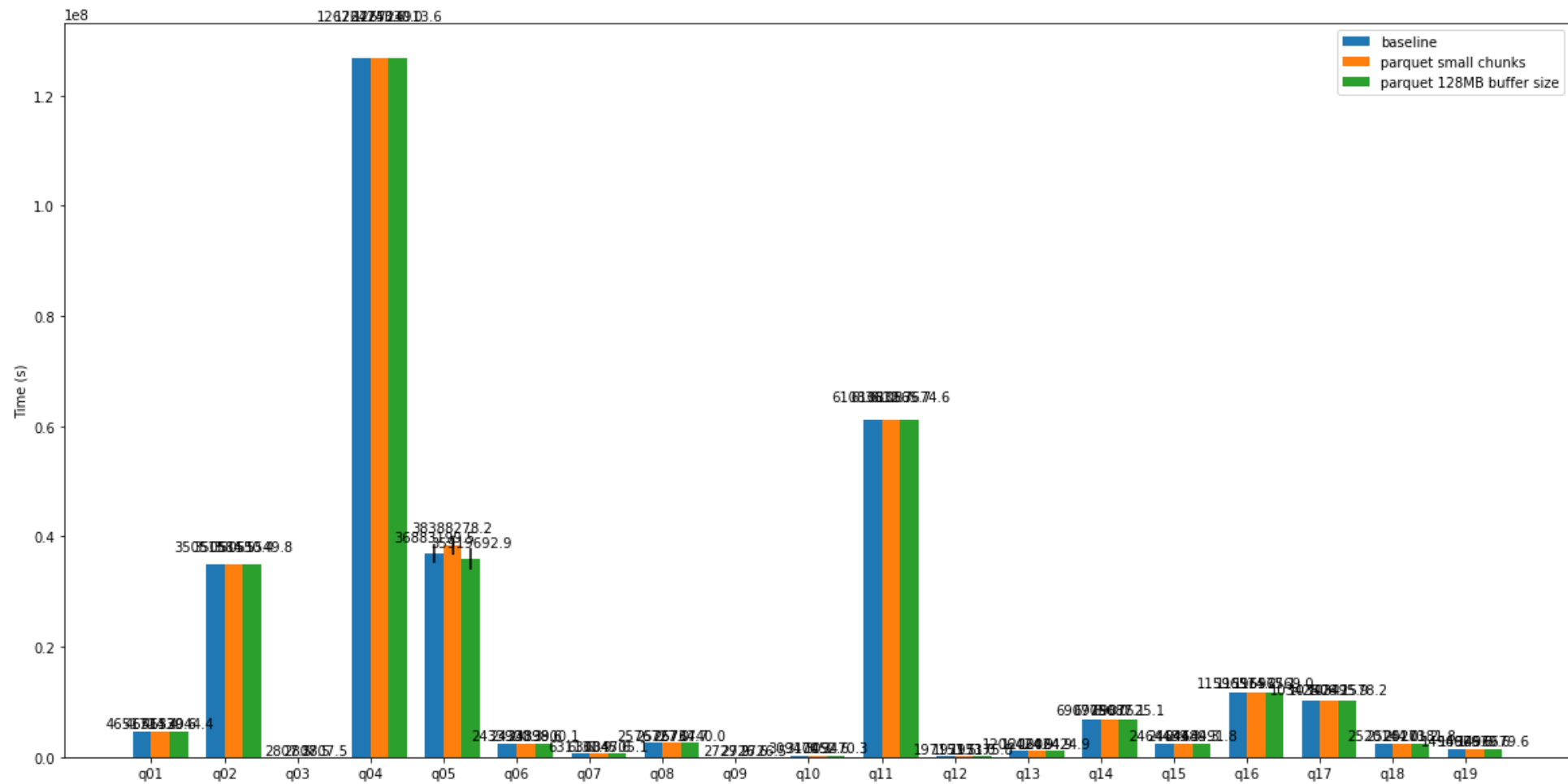
query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value	
6	presto/tpch/q07	46284751.54	1.78	46284746.34	4.40	46284750.56	3.47	-0.00	-5.20	-0.00	0.00	0.00	0.00	0.02295
8	presto/tpch/q09	431939759.50	13.69	431939748.88	3.00	431939757.36	9.81	-0.00	-10.62	-0.00	0.00	0.00	0.00	0.09298
16	presto/tpch/q17	196861232.31	30.50	196861229.16	22.22	196861241.52	18.87	-0.00	-3.14	0.00	0.00	0.00	0.00	0.84243
18	presto/tpch/q19	17289480.84	0.00	17289480.84	0.00	17289480.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
0	presto/tpch/q01	1701.75	0.00	1701.75	0.00	1701.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
12	presto/tpch/q13	38017791.21	0.00	38017791.21	0.00	38017791.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
11	presto/tpch/q12	43356442.68	0.00	43356442.68	0.00	43356442.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
20	presto/tpch/q21	263134122.89	0.00	263134122.89	0.00	263134122.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
13	presto/tpch/q14	10515968.44	0.00	10515968.44	0.00	10515968.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpch/q22	24823820.30	0.00	24823820.30	0.00	24823820.32	0.09	0.00	0.00	0.00	0.00	0.00	0.00	nan
4	presto/tpch/q05	75188012.55	4.28	75188012.60	3.82	75188010.19	3.31	0.00	0.06	-0.00	0.00	0.00	0.00	0.98117
15	presto/tpch/q16	27912124.87	3.00	27912125.03	2.62	27912129.52	2.31	0.00	0.17	0.00	0.00	0.00	0.00	0.91906
2	presto/tpch/q03	128731612.98	19.50	128731617.72	11.49	128731623.98	9.10	0.00	4.73	0.00	0.00	0.00	0.00	0.61963

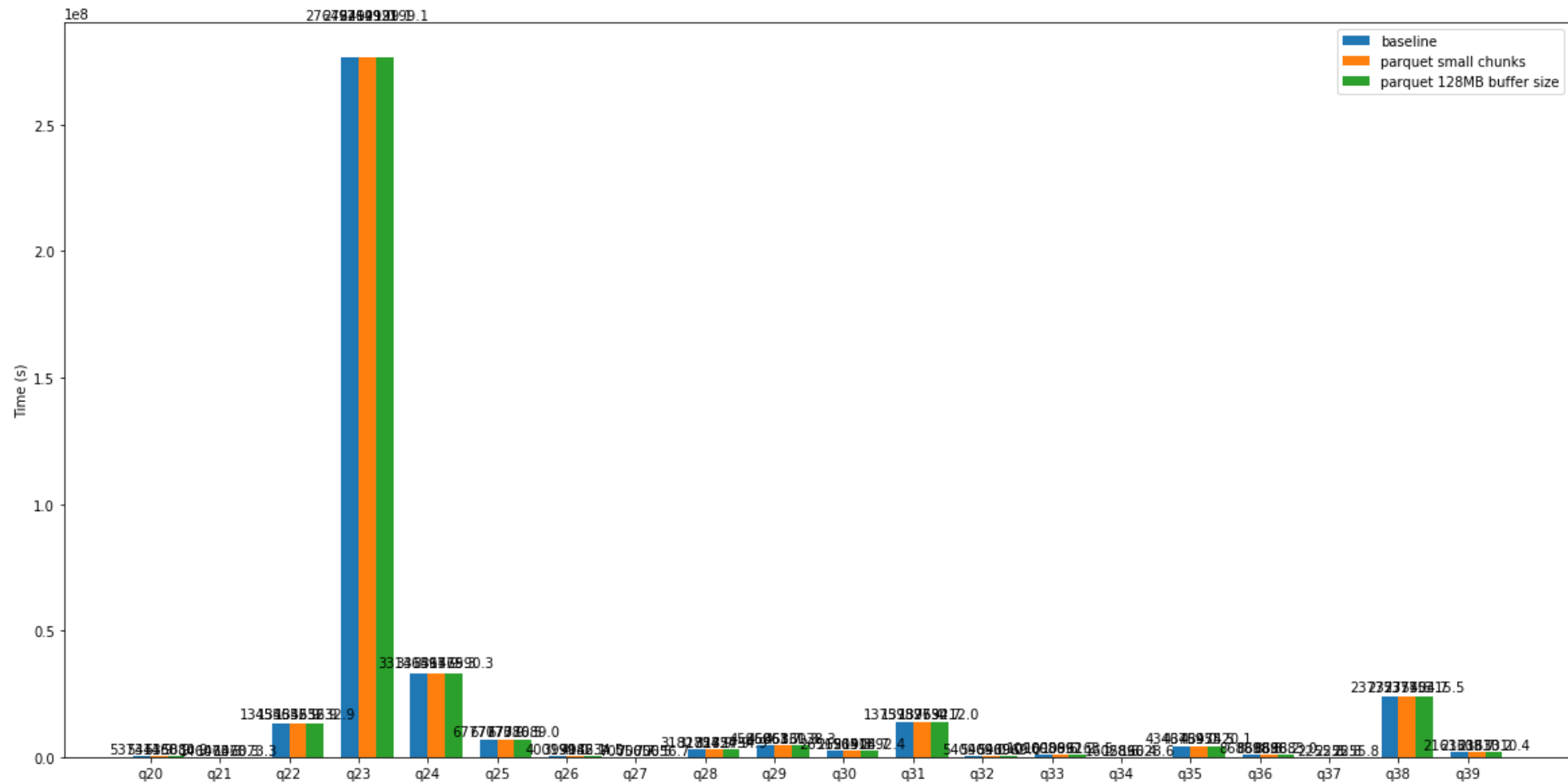
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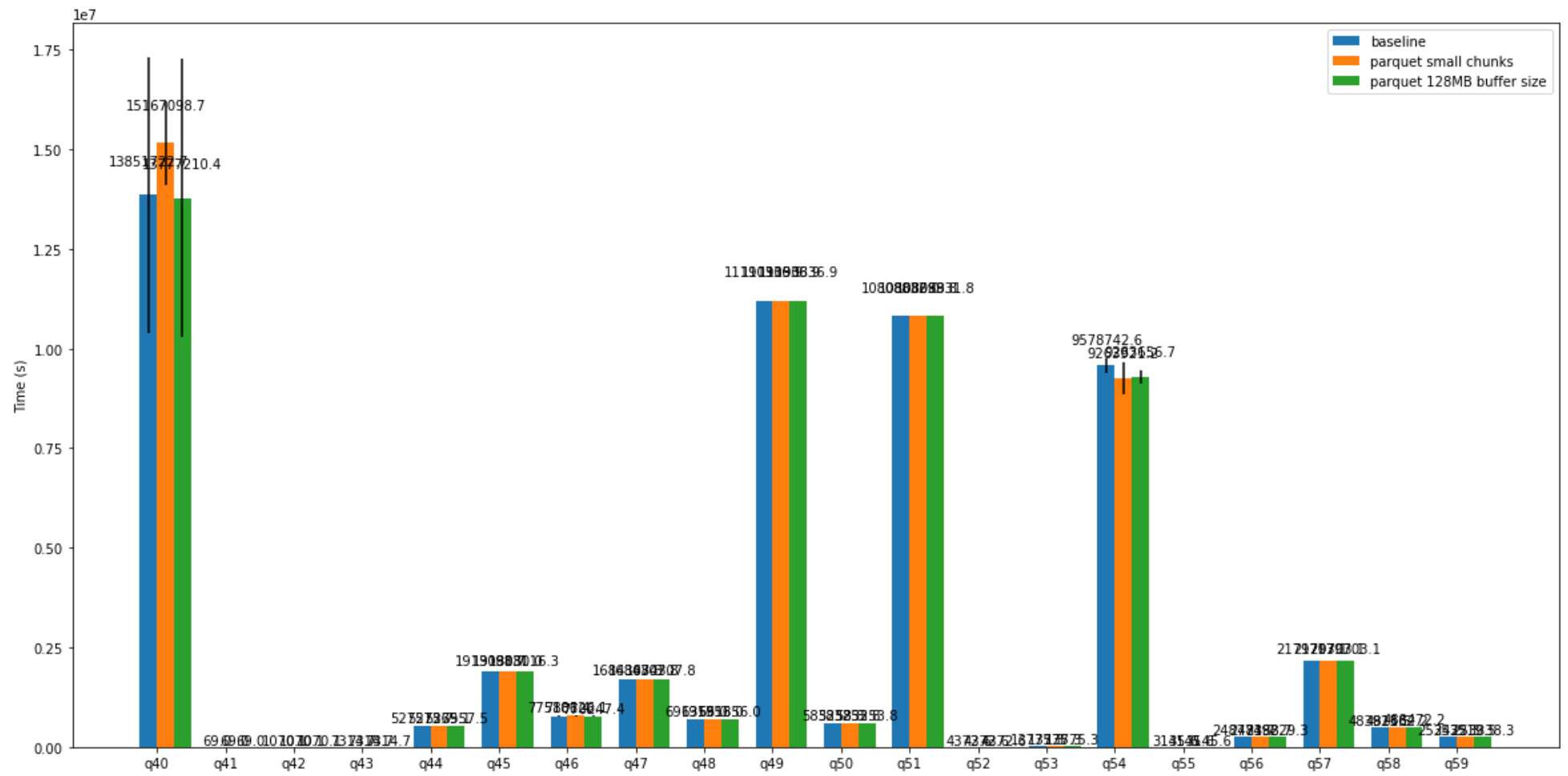
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std 2
min -0
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Name: % change base -> parquet 128MB buffer size, dtype: float64

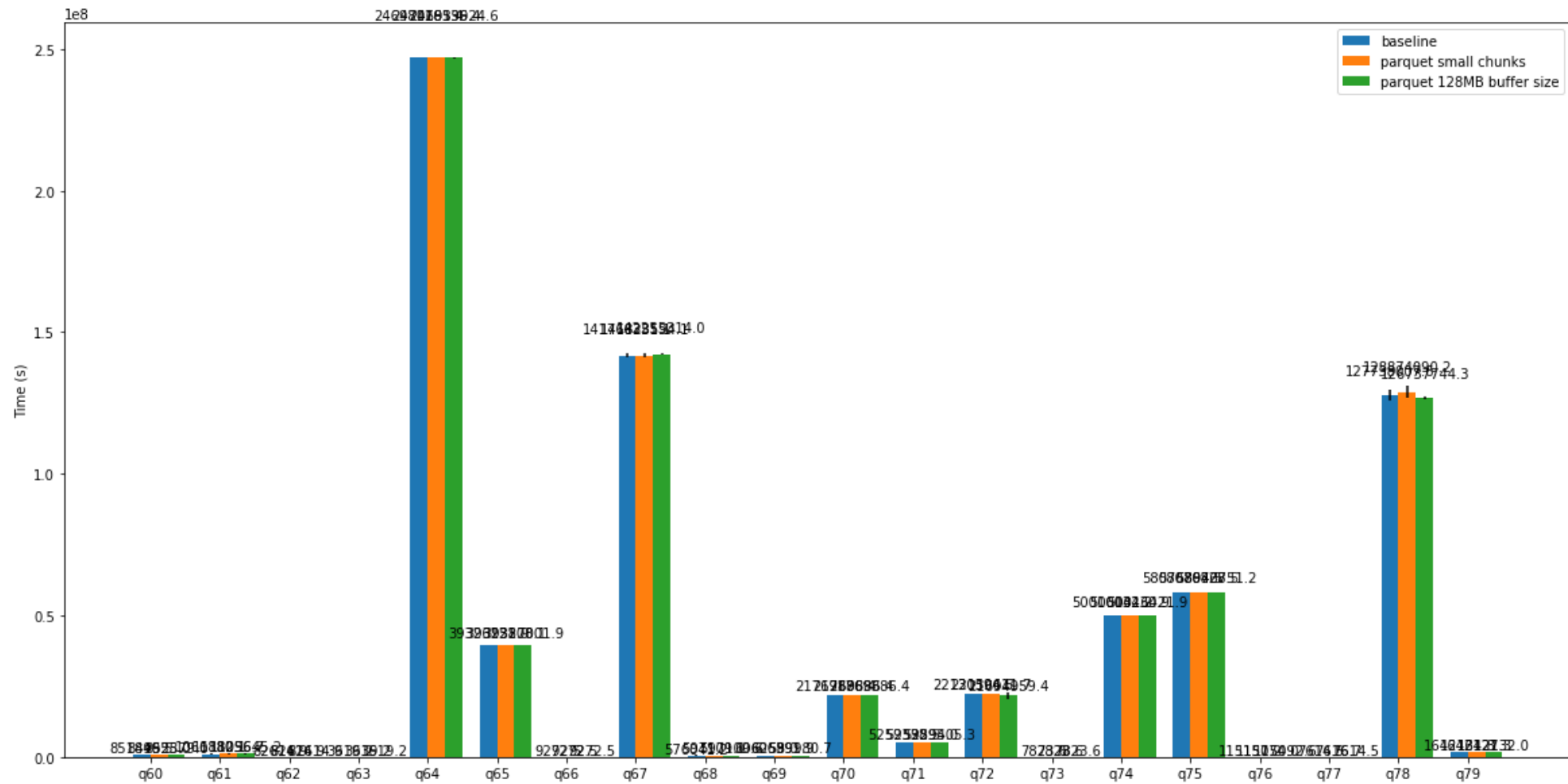
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## TPC-DS Comparison (Network)

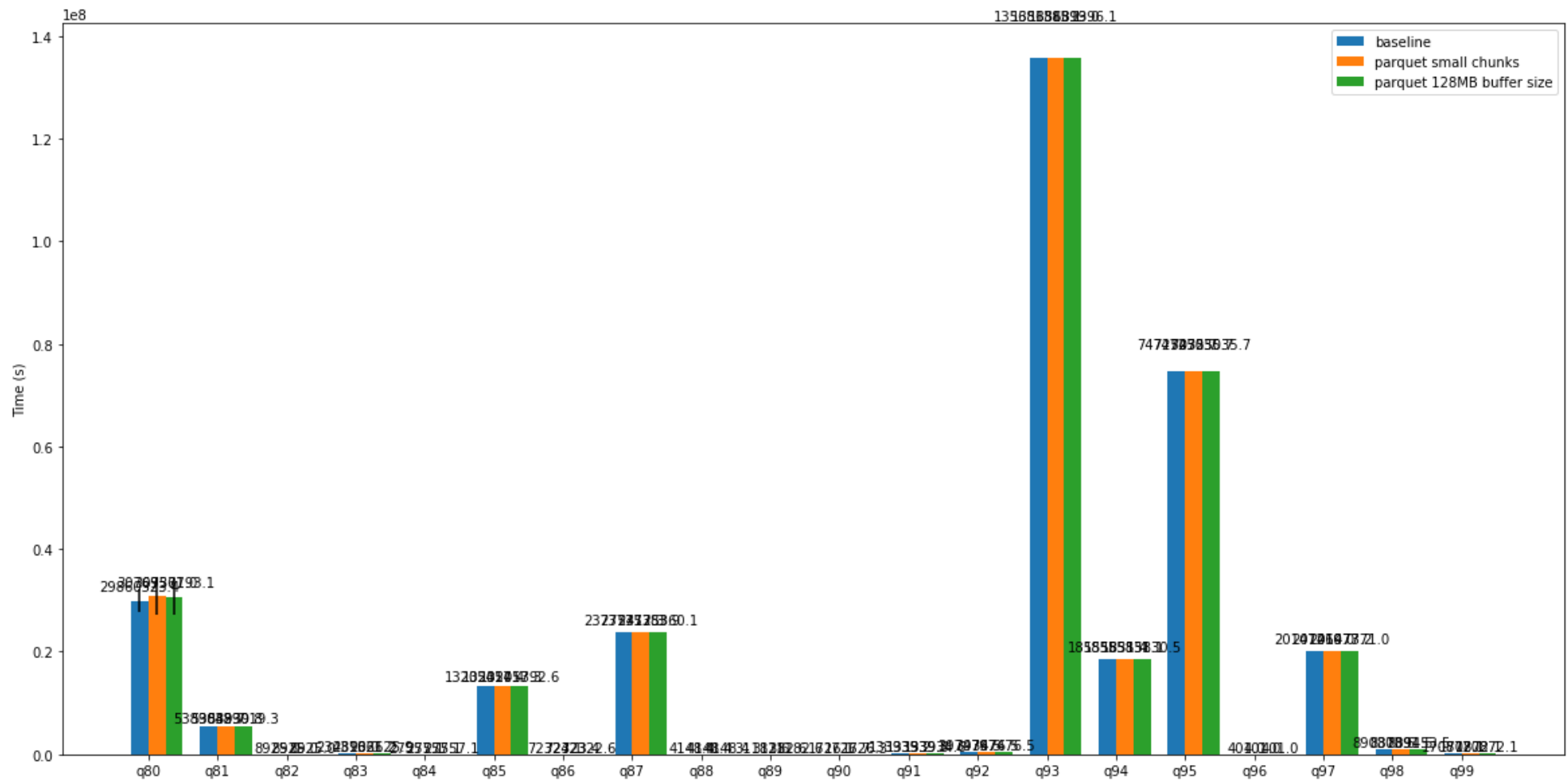












	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
53	presto/tpcds/q54	9578742.63	177026.15	9263921.18	402330.50	9283656.70	166702.72	-3.29	-314821.45	-3.08	1.85	4.34	1.80	0.10990
82	presto/tpcds/q83	234890.01	8166.07	231621.16	7069.32	236625.94	7710.65	-1.39	-3268.85	0.74	3.48	3.05	3.26	0.47554
33	presto/tpcds/q34	16028.58	0.00	15896.37	323.84	16028.58	0.00	-0.82	-132.21	0.00	0.00	2.04	0.00	0.34089
57	presto/tpcds/q58	483925.46	2079.70	481162.24	2202.65	488472.23	8154.75	-0.57	-2763.22	0.94	0.43	0.46	1.67	0.04948
97	presto/tpcds/q98	890303.57	5775.46	887091.48	4753.72	889453.50	6966.28	-0.36	-3212.10	-0.10	0.65	0.54	0.78	0.31763
25	presto/tpcds/q26	400199.01	5108.79	399146.15	4812.41	408234.50	2096.13	-0.26	-1052.86	2.01	1.28	1.21	0.51	0.72094
59	presto/tpcds/q60	851846.51	1584.45	849954.99	783.38	852379.01	787.96	-0.22	-1891.52	0.06	0.19	0.09	0.09	0.02554
6	presto/tpcds/q07	631131.87	4763.38	630045.60	4034.75	634705.14	4432.32	-0.17	-1086.27	0.57	0.75	0.64	0.70	0.67896
55	presto/tpcds/q56	248771.74	506.66	248388.66	250.17	249229.32	249.94	-0.15	-383.08	0.18	0.20	0.10	0.10	0.12777



	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
94	presto/tpcds/q95	74725035.69	0.00	74725035.69	0.00	74725035.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
91	presto/tpcds/q92	397476.47	0.00	397476.47	0.00	397476.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
62	presto/tpcds/q63	3619.18	0.00	3619.18	0.00	3619.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
65	presto/tpcds/q66	9272.52	0.00	9272.52	0.00	9272.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
69	presto/tpcds/q70	21769886.36	0.00	21769886.36	0.00	21769886.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
87	presto/tpcds/q88	4148.42	0.00	4148.42	0.00	4148.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
81	presto/tpcds/q82	8925.03	0.00	8925.03	0.00	8925.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
88	presto/tpcds/q89	31182.65	0.00	31182.65	0.00	31182.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
83	presto/tpcds/q84	27557.06	0.00	27557.06	0.00	27557.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
61	presto/tpcds/q62	82614.90	0.00	82614.90	0.00	82614.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
52	presto/tpcds/q53	13775.26	0.00	13775.26	0.00	13775.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
49	presto/tpcds/q50	583253.80	0.00	583253.80	0.00	583253.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
48	presto/tpcds/q49	11190336.92	0.00	11190336.92	0.00	11190336.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
2	presto/tpcds/q03	2807.51	0.00	2807.51	0.00	2807.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
12	presto/tpcds/q13	1206424.92	0.00	1206424.92	0.00	1206424.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
18	presto/tpcds/q19	1496679.61	0.00	1496679.61	0.00	1496679.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
20	presto/tpcds/q21	146073.35	0.00	146073.35	0.00	146073.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpcds/q22	13455632.86	0.00	13455632.86	0.00	13455632.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
51	presto/tpcds/q52	4372.63	0.00	4372.63	0.00	4372.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
27	presto/tpcds/q28	3182754.86	0.00	3182754.86	0.00	3182754.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
31	presto/tpcds/q32	540969.04	0.00	540969.04	0.00	540969.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
36	presto/tpcds/q37	2255.80	0.00	2255.80	0.00	2255.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
98	presto/tpcds/q99	170872.06	0.00	170872.06	0.00	170872.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
42	presto/tpcds/q43	7314.72	0.00	7314.72	0.00	7314.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
47	presto/tpcds/q48	691356.02	0.00	691356.02	0.00	691356.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
46	presto/tpcds/q47	1684307.80	0.00	1684307.80	0.00	1684307.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
41	presto/tpcds/q42	1070.06	0.00	1070.06	0.00	1070.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
40	presto/tpcds/q41	69.02	0.00	69.02	0.00	69.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
22	presto/tpcds/q23	276492198.96	0.51	276492199.06	0.40	276492199.13	0.55	0.00	0.10	0.00	0.00	0.00	0.00	0.70405
92	presto/tpcds/q93	135681385.07	52.87	135681398.99	44.21	135681396.13	75.24	0.00	13.92	0.00	0.00	0.00	0.00	0.63141
15	presto/tpcds/q16	11596574.22	23.17	11596577.13	6.24	11596569.01	25.40	0.00	2.91	-0.00	0.00	0.00	0.00	0.77256
38	presto/tpcds/q39	2163308.70	3.54	2163310.19	2.73	2163310.40	2.26	0.00	1.49	0.00	0.00	0.00	0.00	0.43233

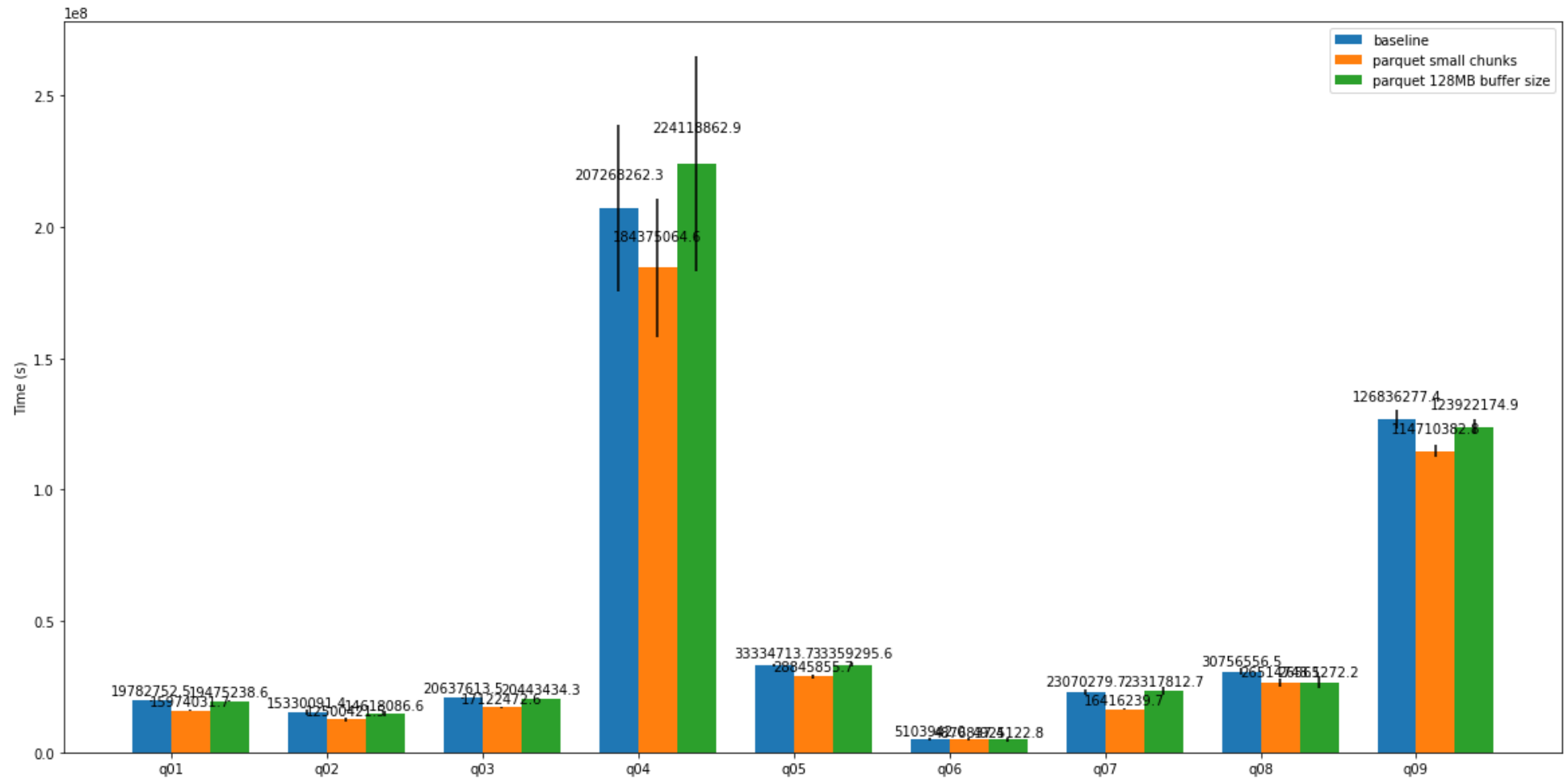
query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value	
71	presto/tpcds/q72	22130594.48	17.94	22130611.74	6.39	21694959.45	1067123.84	0.00	17.26	-1.97	0.00	0.00	4.92	0.05068
37	presto/tpcds/q38	23775375.58	93.45	23775404.65	71.90	23775315.53	165.10	0.00	29.07	-0.00	0.00	0.00	0.00	0.55931
24	presto/tpcds/q25	6777073.87	34.62	6777086.52	27.86	6777089.05	19.20	0.00	12.65	0.00	0.00	0.00	0.00	0.50144
3	presto/tpcds/q04	126724743.59	505.06	126725029.95	555.12	126724913.60	527.20	0.00	286.36	0.00	0.00	0.00	0.00	0.37199
7	presto/tpcds/q08	2576727.00	20.94	2576734.75	2.46	2576739.97	3.06	0.00	7.74	0.00	0.00	0.00	0.00	0.38941
11	presto/tpcds/q12	197151.47	37.78	197153.01	35.55	197175.82	0.03	0.00	1.54	0.01	0.02	0.02	0.00	0.94353
17	presto/tpcds/q18	2520144.00	19.53	2520173.21	35.24	2520181.78	61.15	0.00	29.21	0.00	0.00	0.00	0.00	0.10609
28	presto/tpcds/q29	4586063.69	74.67	4586131.33	27.78	4586038.33	61.43	0.00	67.64	-0.00	0.00	0.00	0.00	0.06425
90	presto/tpcds/q91	133935.25	8.73	133939.75	26.54	133934.60	8.85	0.00	4.50	-0.00	0.01	0.02	0.01	0.70131
34	presto/tpcds/q35	4346758.98	829.24	4346955.51	780.27	4347420.13	515.41	0.00	196.53	0.02	0.02	0.02	0.01	0.68140
63	presto/tpcds/q64	246981265.44	27589.38	247018136.43	30653.26	246939924.58	91082.47	0.01	36870.99	-0.02	0.01	0.01	0.04	0.05334
13	presto/tpcds/q14	6907756.02	3316.16	6909087.13	253.93	6907525.06	3305.71	0.02	1331.10	-0.00	0.05	0.00	0.05	0.35003
68	presto/tpcds/q69	606257.98	526.75	606391.87	510.91	599980.73	15530.81	0.02	133.89	-1.04	0.09	0.08	2.59	0.66446
76	presto/tpcds/q77	7614.45	4.73	7616.67	3.54	7614.51	1.65	0.03	2.22	0.00	0.06	0.05	0.02	0.37984
89	presto/tpcds/q90	1726.14	0.27	1726.68	0.49	1726.31	0.48	0.03	0.54	0.01	0.02	0.03	0.03	0.03995
58	presto/tpcds/q59	253422.29	258.99	253519.53	385.36	253338.27	249.36	0.04	97.24	-0.03	0.10	0.15	0.10	0.61909
66	presto/tpcds/q67	141768351.06	584832.06	141823594.11	801790.74	142255313.99	320789.14	0.04	55243.05	0.34	0.41	0.57	0.23	0.89425
9	presto/tpcds/q10	309470.33	1784.45	310452.64	0.00	309470.33	1784.45	0.32	982.30	0.00	0.58	0.00	0.58	0.20728
45	presto/tpcds/q46	775186.44	15304.23	780126.11	12098.53	770247.43	16232.34	0.64	4939.67	-0.64	1.97	1.55	2.11	0.54899
77	presto/tpcds/q78	127738007.61	1835077.65	128874090.24	2115710.08	126737744.28	339995.72	0.89	1136082.63	-0.78	1.44	1.64	0.27	0.34384
19	presto/tpcds/q20	537314.89	4889.66	544160.93	6792.77	535880.94	1391.68	1.27	6846.04	-0.27	0.91	1.25	0.26	0.07295
79	presto/tpcds/q80	29860323.39	2249406.16	30769566.95	3642576.52	30737193.06	3632362.91	3.04	909243.56	2.94	7.53	11.84	11.82	0.61422
67	presto/tpcds/q68	576041.25	51607.40	597109.09	0.82	597109.58	0.54	3.66	21067.85	3.66	8.96	0.00	0.00	0.34091
4	presto/tpcds/q05	36883199.46	1738221.71	38388278.23	1728365.89	35919692.91	2019316.30	4.08	1505078.77	-2.61	4.71	4.50	5.62	0.16349
60	presto/tpcds/q61	1066880.12	120431.59	1118256.67	62236.28	1109645.22	60078.35	4.82	51376.54	4.01	11.29	5.57	5.41	0.37510
39	presto/tpcds/q40	13851722.66	3455090.09	15167098.71	1053546.96	13777210.43	3497047.50	9.50	1315376.05	-0.54	24.94	6.95	25.38	0.39336
count	99													
mean	0													
std	1													
min	-3													
25%	-0													
50%	0													
75%	0													
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Name: % change, dtype: float64														

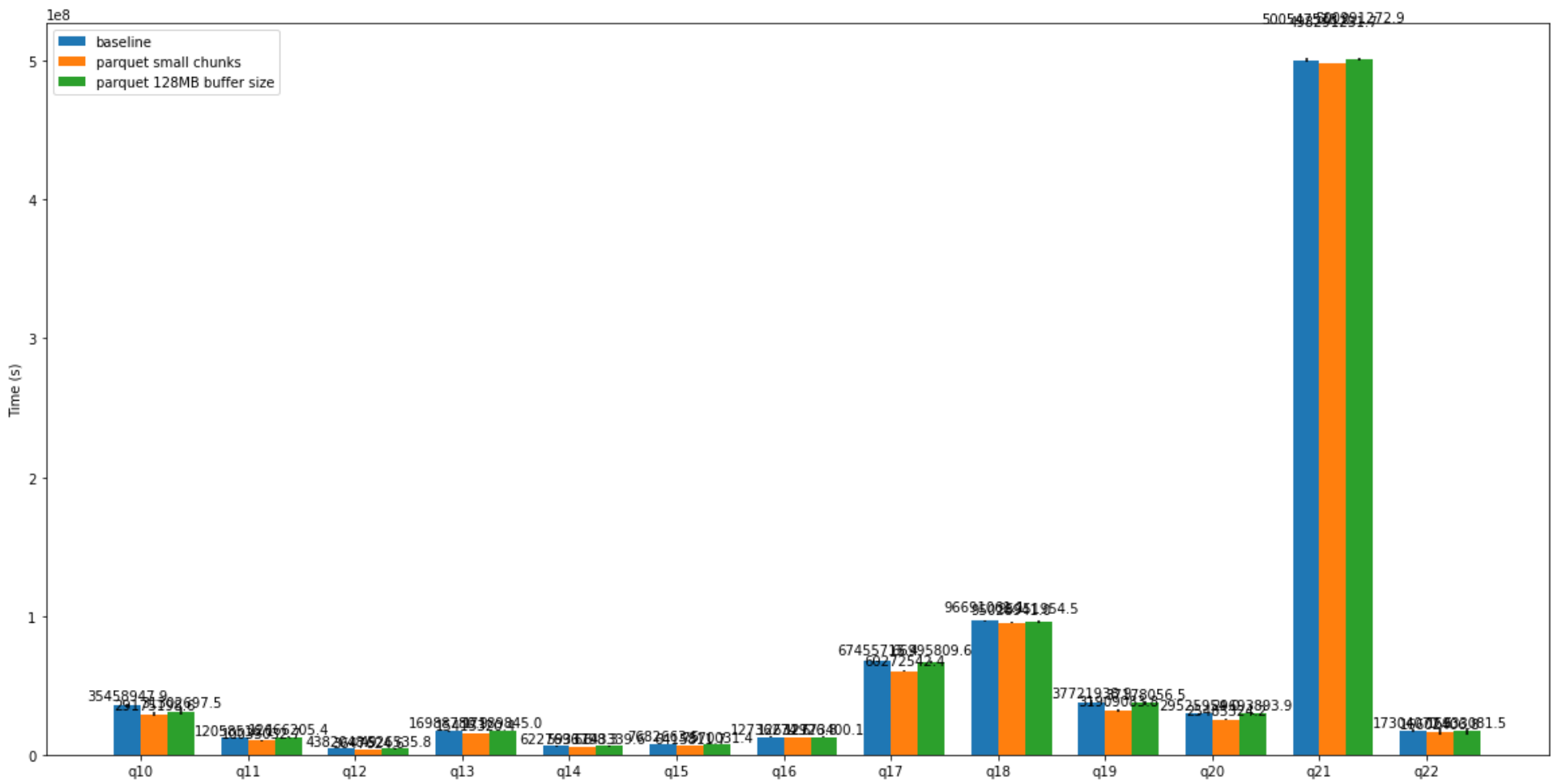
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std      1
min     -3
25%     -0
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## TPC-H Comparison (Peak memory)

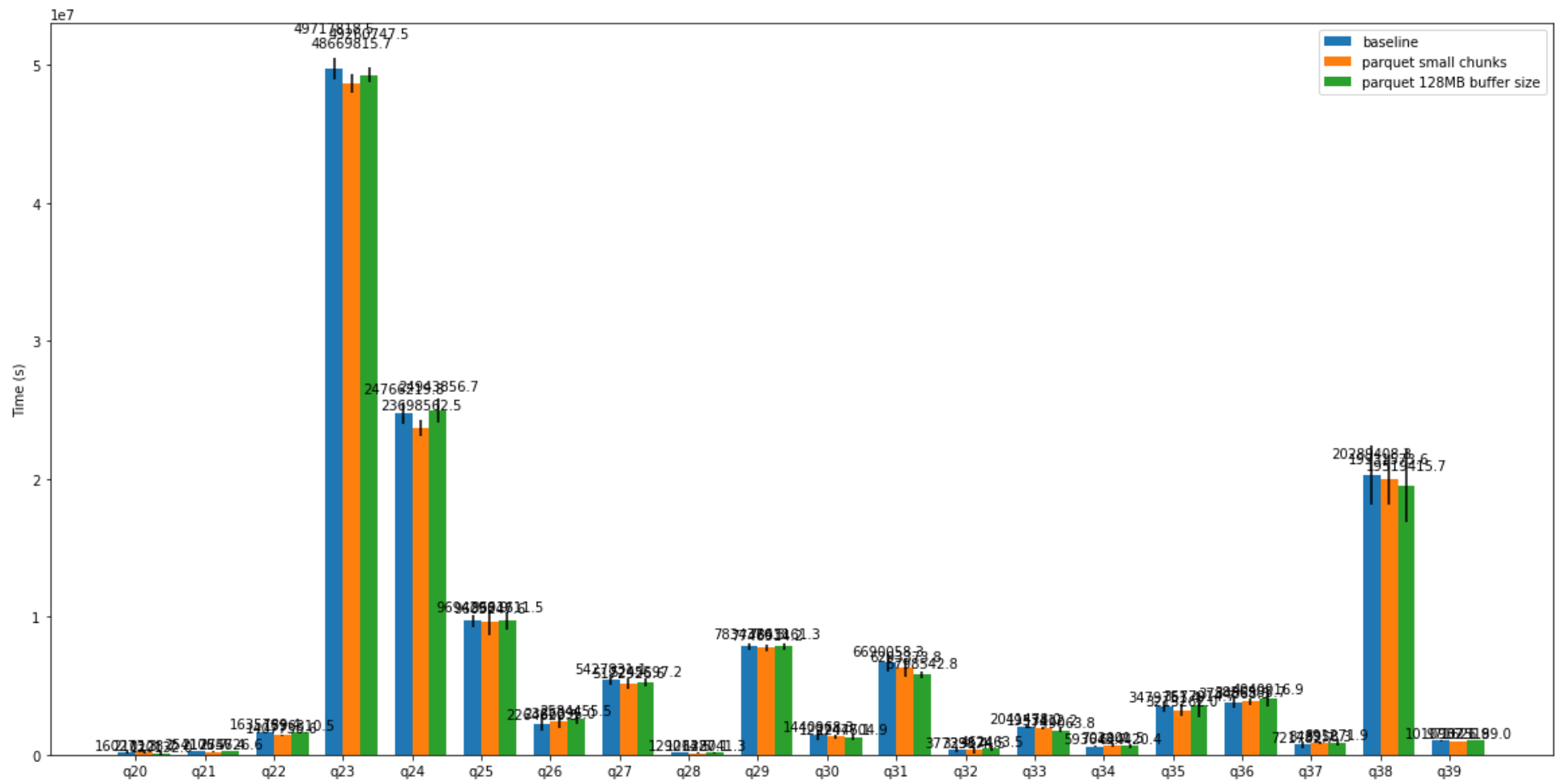




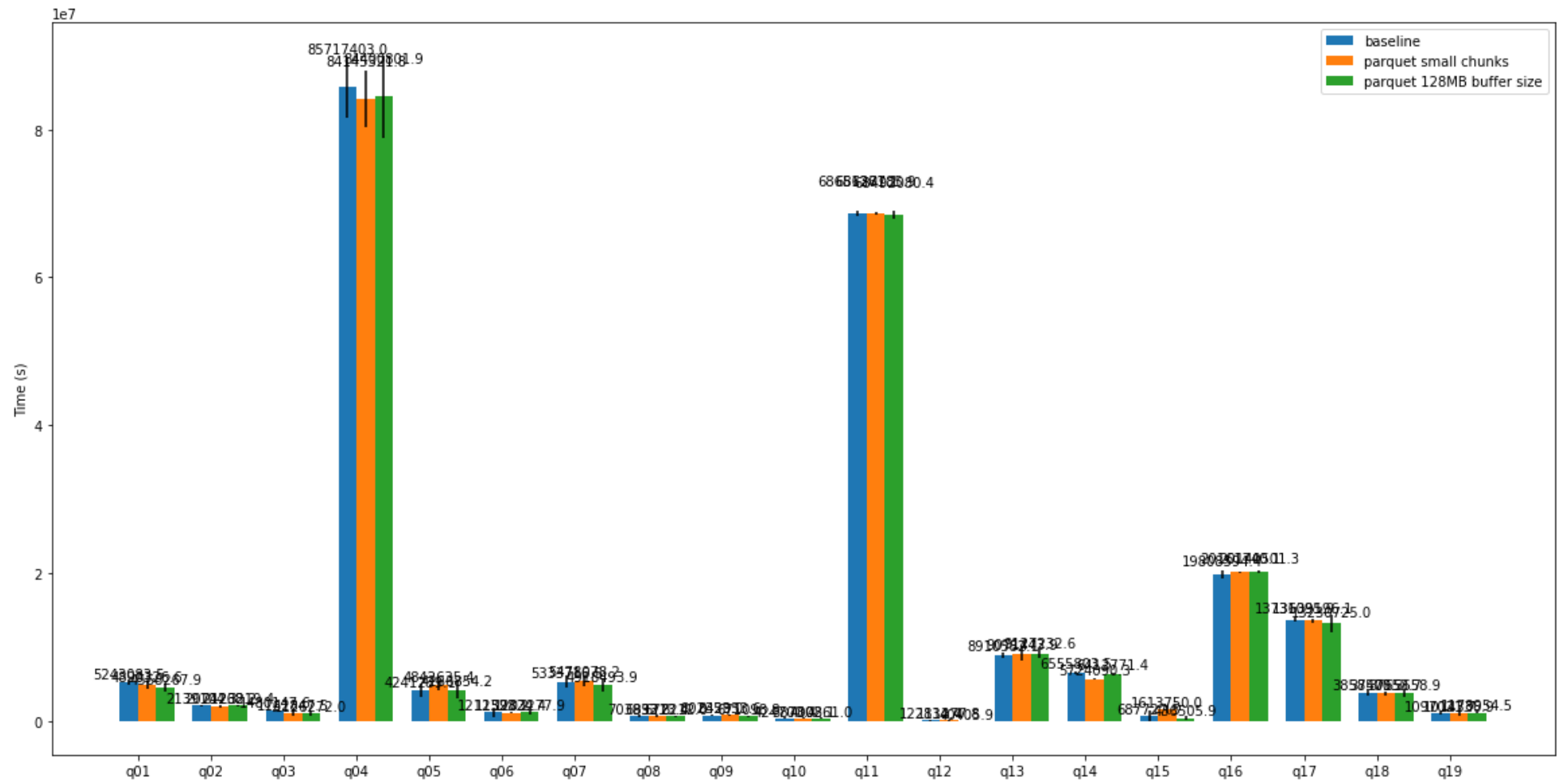
	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
6	presto/tpch/q07	23070279.69	925462.90	16416239.74	393733.79	23317812.67	1660189.89	-28.84	-6654039.95	1.07	4.01	2.40	7.12	0.00000
0	presto/tpch/q01	19782752.46	216015.39	15974031.71	304159.20	19475238.57	242749.22	-19.25	-3808720.75	-1.55	1.09	1.90	1.25	0.00000
1	presto/tpch/q02	15330091.41	1156821.01	12500421.46	668803.83	14618086.62	1153447.16	-18.46	-2829669.95	-4.64	7.55	5.35	7.89	0.00041
9	presto/tpch/q10	35458947.93	1454346.43	29175198.61	1196216.07	31302697.52	2226349.80	-17.72	-6283749.32	-11.72	4.10	4.10	7.11	0.00001
2	presto/tpch/q03	20637613.52	91754.66	17122472.58	85365.66	20443434.32	154146.08	-17.03	-3515140.94	-0.94	0.44	0.50	0.75	0.00000
10	presto/tpch/q11	12058516.05	306211.26	10033032.74	665274.72	12666205.41	544939.51	-16.80	-2025483.31	5.04	2.54	6.63	4.30	0.00005
11	presto/tpch/q12	4382048.89	191324.36	3647624.59	146470.43	4526535.76	480034.89	-16.76	-734424.30	3.30	4.37	4.02	10.60	0.00002
14	presto/tpch/q15	7682663.48	152431.76	6415811.73	162372.16	7570031.41	117812.75	-16.49	-1266851.75	-1.47	1.98	2.53	1.56	0.00000
18	presto/tpch/q19	37721938.93	2167484.80	31909083.78	751511.82	37178056.54	1660595.80	-15.41	-5812855.15	-1.44	5.75	2.36	4.47	0.00010

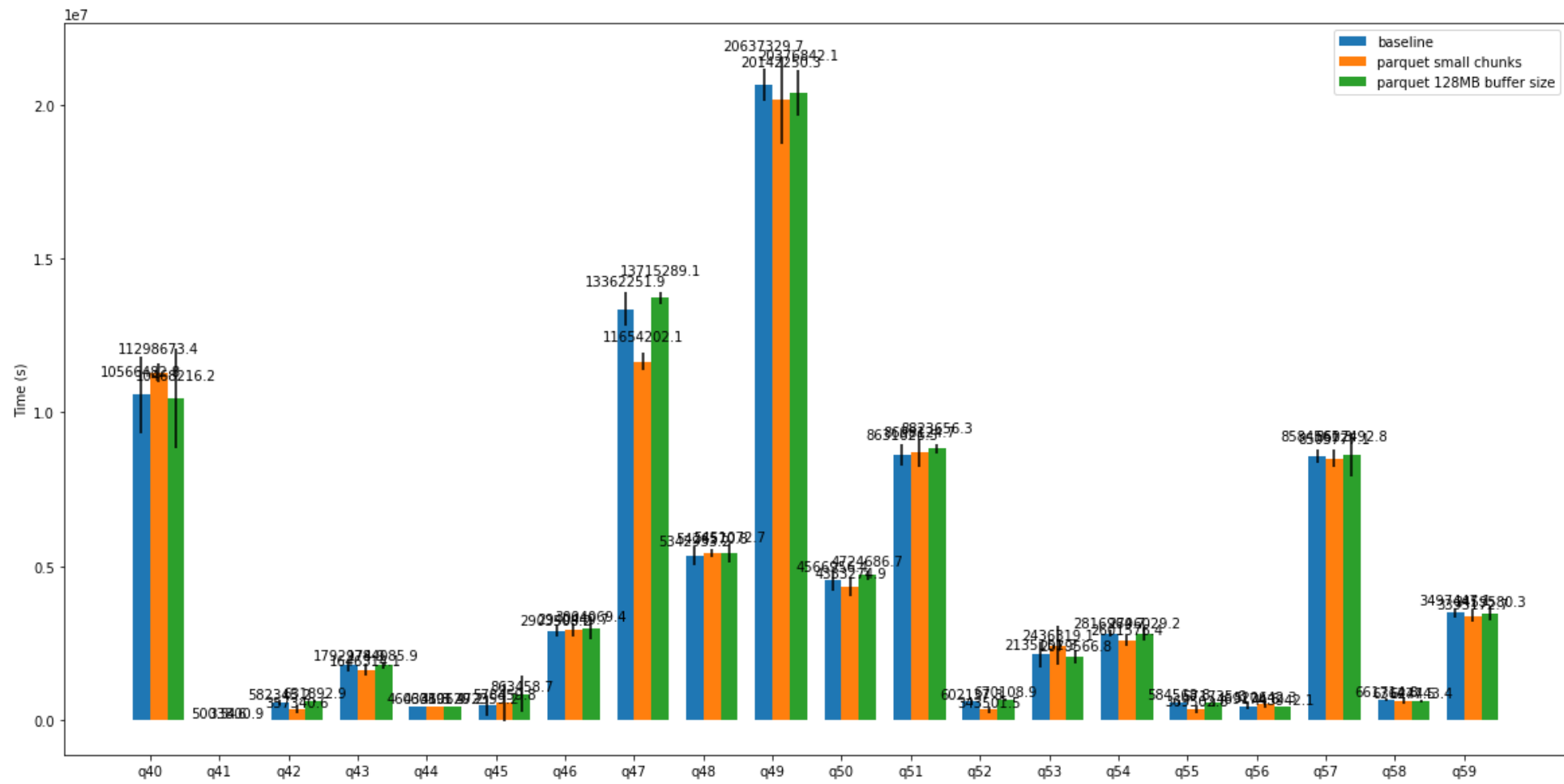
query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value	
7	presto/tpch/q08	30756556.55	1212195.64	26514748.12	1486075.24	26565272.17	2355364.78	-13.79	-4241808.43	-13.63	3.94	5.60	8.87	0.00029
19	presto/tpch/q20	29525954.04	406871.16	25485324.18	231481.66	29693893.86	451935.17	-13.69	-4040629.86	0.57	1.38	0.91	1.52	0.00000
4	presto/tpch/q05	33334713.72	570006.43	28845855.73	614964.95	33359295.62	712444.82	-13.47	-4488857.99	0.07	1.71	2.13	2.14	0.00000
3	presto/tpch/q04	207268262.27	31818809.55	184375064.62	26357023.29	224118862.93	40808433.83	-11.05	-22893197.65	8.13	15.35	14.30	18.21	0.20455
16	presto/tpch/q17	67455715.44	558944.39	60272542.43	584121.51	66995809.56	778038.54	-10.65	-7183173.01	-0.68	0.83	0.97	1.16	0.00000
8	presto/tpch/q09	126836277.37	3554366.22	114710382.85	2363354.72	123922174.92	2630981.42	-9.56	-12125894.52	-2.30	2.80	2.06	2.12	0.00004
12	presto/tpch/q13	16988780.85	498764.12	15415320.40	357963.95	17189845.05	309092.98	-9.26	-1573460.45	1.18	2.94	2.32	1.80	0.00009
13	presto/tpch/q14	6227696.58	157532.67	5933798.32	62035.05	6143339.60	115577.99	-4.72	-293898.26	-1.35	2.53	1.05	1.88	0.00168
5	presto/tpch/q06	5103941.96	442560.40	4876837.45	617678.12	4925122.78	706369.85	-4.45	-227104.52	-3.50	8.67	12.67	14.34	0.48092
21	presto/tpch/q22	17304077.63	684335.34	16602406.85	2658692.87	16933081.47	2307331.20	-4.05	-701670.79	-2.14	3.95	16.01	13.63	0.54530
17	presto/tpch/q18	96691061.07	460154.10	95028941.05	385140.87	95951954.54	641858.54	-1.72	-1662120.02	-0.76	0.48	0.41	0.67	0.00005
15	presto/tpch/q16	12736274.59	207186.51	12632926.78	224469.62	12773400.14	159331.30	-0.81	-103347.81	0.29	1.63	1.78	1.25	0.42660
20	presto/tpch/q21	500547578.04	1418016.14	498291231.66	259450.40	500991272.86	1075536.19	-0.45	-2256346.38	0.09	0.28	0.05	0.21	0.00330
count		22												
mean		-12												
std		7												
min		-29												
25%		-17												
50%		-14												
75%		-6												
max		-0												
Name: % change, dtype: float64														
count		22												
mean		-1												
std		5												
min		-14												
25%		-2												
50%		-1												
75%		0												
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Name: % change base -> parquet 128MB buffer size, dtype: float64														

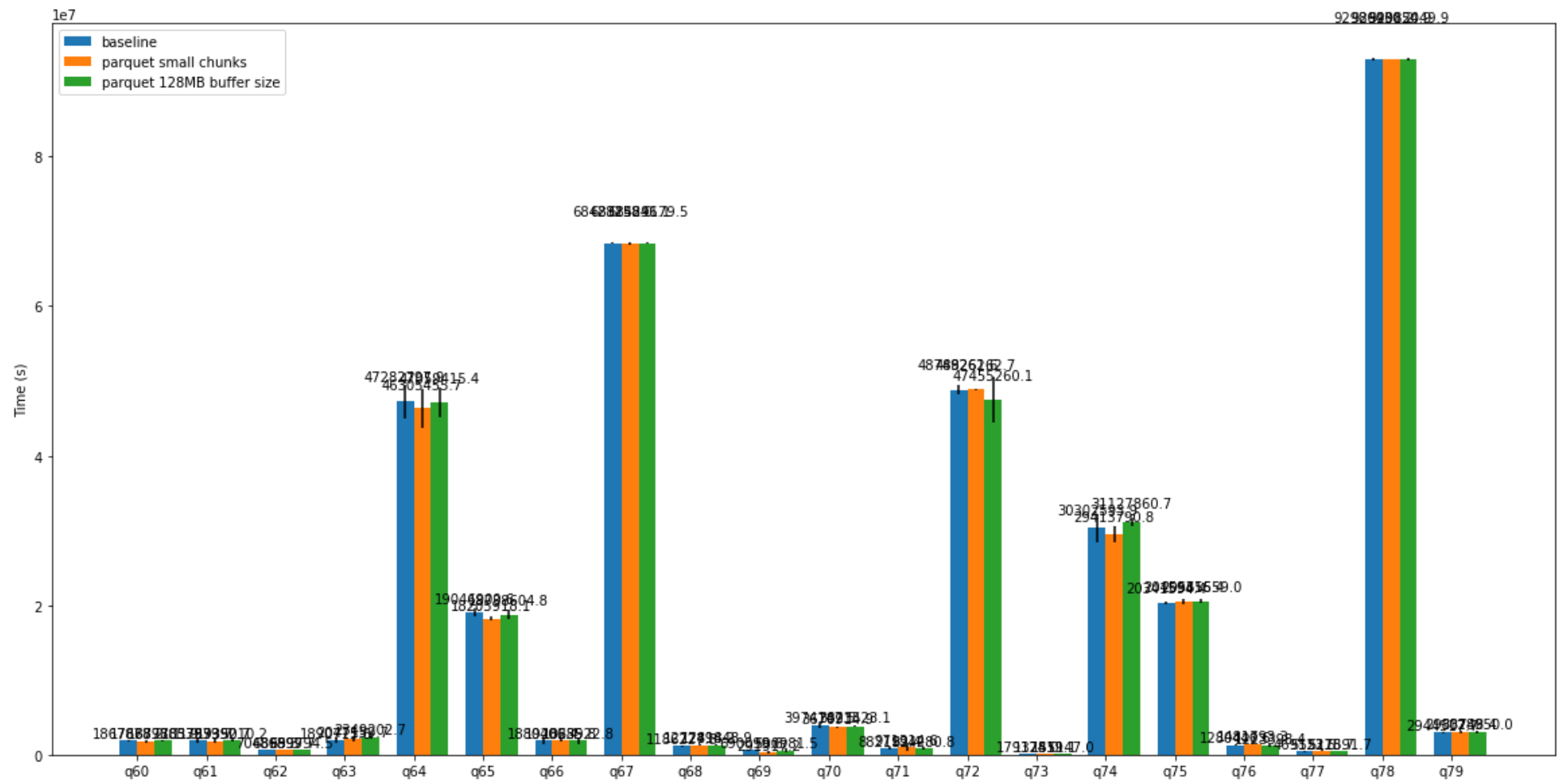
## TPC-DS Comparison (Peak memory)

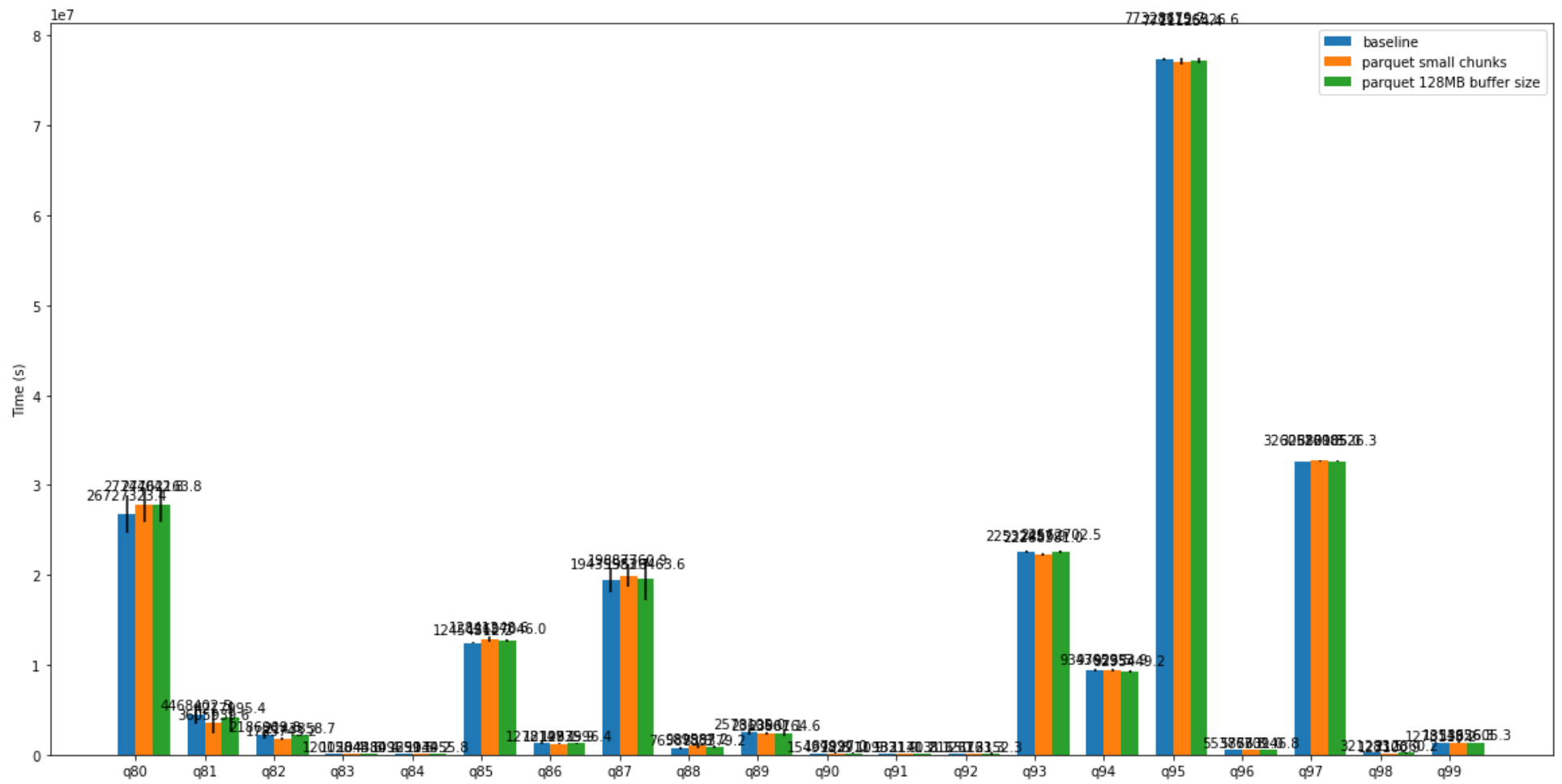


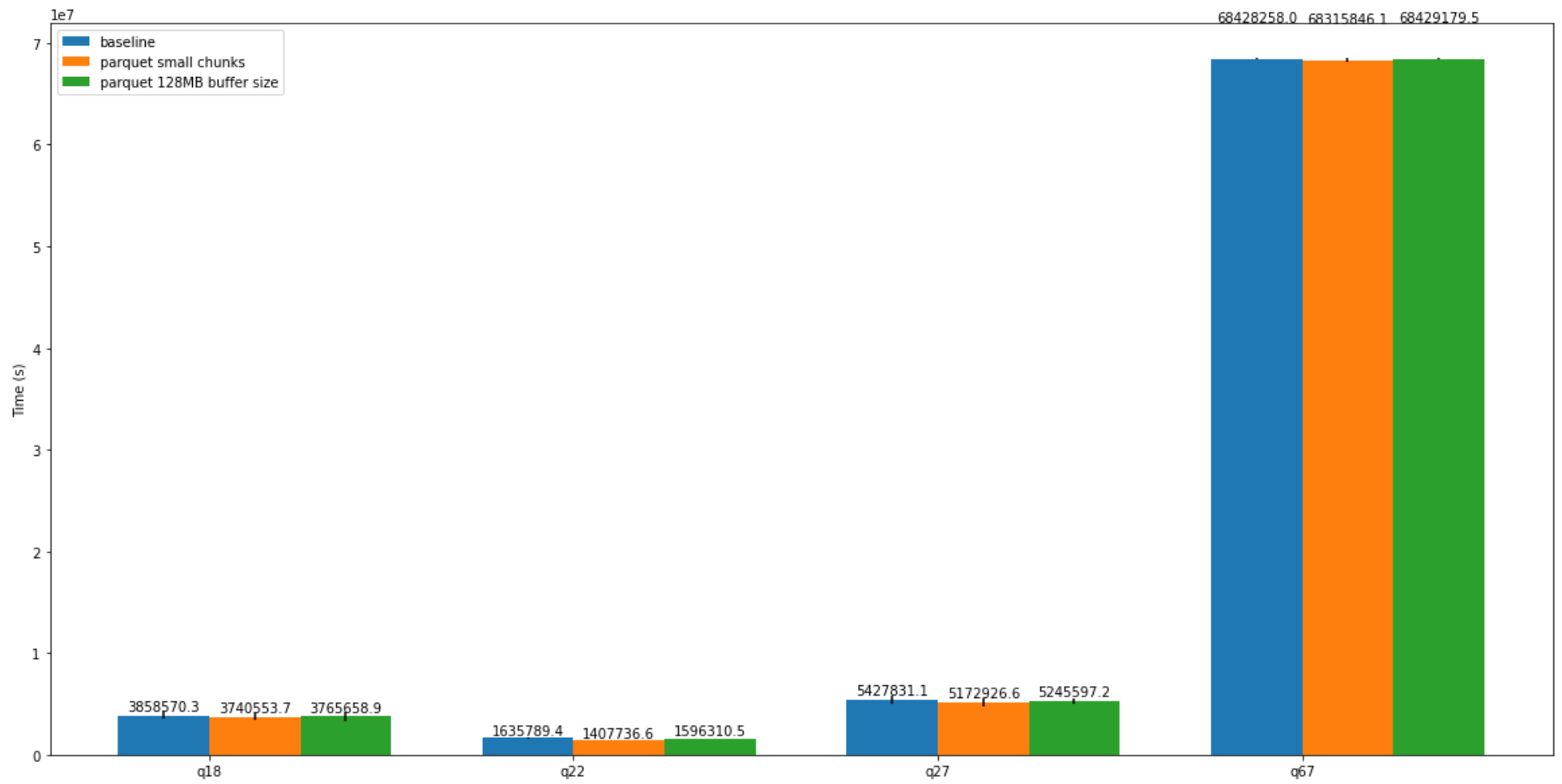












	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
97	presto/tpcds/q98	321283.46	10257.57	123100.91	36749.47	212860.22	115389.06	-61.68	-198182.56	-33.75	3.19	29.85	54.21	0.00000
68	presto/tpcds/q69	690099.58	74854.10	291917.16	171725.92	590981.48	213710.52	-57.70	-398182.42	-14.36	10.85	58.83	36.16	0.00040
51	presto/tpcds/q52	602137.33	81507.80	343501.48	97336.96	670108.91	28301.68	-42.95	-258635.86	11.29	13.54	28.34	4.22	0.00055
41	presto/tpcds/q42	582345.16	69247.11	357340.59	145643.42	631892.94	55310.90	-38.64	-225004.57	8.51	11.89	40.76	8.75	0.00657
54	presto/tpcds/q55	584568.76	79669.62	369502.82	120783.08	571735.59	131129.62	-36.79	-215065.94	-2.20	13.63	32.69	22.94	0.00453
40	presto/tpcds/q41	500.50	194.25	338.58	161.35	400.93	102.66	-32.35	-161.92	-19.89	38.81	47.65	25.61	0.14734
72	presto/tpcds/q73	179123.98	24193.79	137819.11	28852.90	155147.04	40227.09	-23.06	-41304.87	-13.39	13.51	20.94	25.93	0.02282
2	presto/tpcds/q03	1480147.60	192643.94	1162847.45	426834.22	1126271.96	418711.66	-21.44	-317300.15	-23.91	13.02	36.71	37.18	0.12796
80	presto/tpcds/q81	4468402.55	1130793.93	3605939.59	1273312.62	4217995.38	1691976.09	-19.30	-862462.96	-5.60	25.31	35.31	40.11	0.24309

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
81	presto/tpcds/q82	2186909.80	445660.86	1785743.16	143799.66	2143858.67	138090.84	-18.34	-401166.64	-1.97	20.38	8.05	6.44	0.06224
82	presto/tpcds/q83	120158.37	15613.60	102644.56	6492.96	104384.42	6294.28	-14.58	-17513.81	-13.13	12.99	6.33	6.03	0.02952
20	presto/tpcds/q21	254106.73	13320.14	217556.38	11500.05	274726.58	20113.54	-14.38	-36550.36	8.11	5.24	5.29	7.32	0.00047
31	presto/tpcds/q32	377398.40	191918.61	323174.48	280666.23	462463.45	159963.56	-14.37	-54223.93	22.54	50.85	86.85	34.59	0.70426
21	presto/tpcds/q22	1635789.36	34395.93	1407736.64	24207.79	1596310.46	13870.83	-13.94	-228052.72	-2.41	2.10	1.72	0.87	0.00000
46	presto/tpcds/q47	13362251.87	529184.58	11654202.13	272901.77	13715289.11	215159.88	-12.78	-1708049.74	2.64	3.96	2.34	1.57	0.00004
13	presto/tpcds/q14	6555803.48	268984.34	5724090.30	92109.80	6412771.44	137579.66	-12.69	-831713.18	-2.18	4.10	1.61	2.15	0.00003
29	presto/tpcds/q30	1440968.33	397393.07	1297477.13	180888.95	1244604.91	198015.70	-9.96	-143491.20	-13.63	27.58	13.94	15.91	0.43954
11	presto/tpcds/q12	122834.38	127867.20	111277.84	116340.68	40405.92	14466.82	-9.41	-11556.54	-67.11	104.10	104.55	35.80	0.87319
9	presto/tpcds/q10	424700.36	76888.28	387302.07	102659.70	400861.05	105610.25	-8.81	-37398.28	-5.61	18.10	26.51	26.35	0.49142
88	presto/tpcds/q89	2578104.99	290319.68	2363661.15	185824.56	2390764.61	365411.76	-8.32	-214443.84	-7.27	11.26	7.86	15.28	0.15852
42	presto/tpcds/q43	1792974.87	199589.05	1646314.12	185618.54	1784085.89	91636.47	-8.18	-146660.75	-0.50	11.13	11.27	5.14	0.21689
53	presto/tpcds/q54	2816964.68	105525.44	2601576.44	176081.86	2796029.19	211180.34	-7.65	-215388.24	-0.74	3.75	6.77	7.55	0.02789
69	presto/tpcds/q70	3974147.46	365427.64	3670914.91	146893.47	3823523.11	127992.77	-7.63	-303232.55	-3.79	9.20	4.00	3.35	0.08865
34	presto/tpcds/q35	3479751.38	378061.43	3215262.04	447990.52	3577914.74	843838.50	-7.60	-264489.33	2.82	10.86	13.93	23.58	0.29495
18	presto/tpcds/q19	1097021.68	176933.23	1014336.92	198883.05	1178954.51	142603.70	-7.54	-82684.76	7.47	16.13	19.61	12.10	0.46431
0	presto/tpcds/q01	5243083.53	381744.60	4890326.64	522043.37	4568267.93	518620.64	-6.73	-352756.89	-12.87	7.28	10.68	11.35	0.21113
30	presto/tpcds/q31	6690058.31	625126.97	6293373.82	673435.61	5798542.84	275760.23	-5.93	-396684.49	-13.33	9.34	10.70	4.76	0.31517
59	presto/tpcds/q60	1867878.20	125550.52	1766898.07	190640.27	1877703.91	113286.59	-5.41	-100980.13	0.53	6.72	10.79	6.03	0.30398
49	presto/tpcds/q50	4566956.39	360322.10	4333274.88	300745.29	4724686.71	148702.98	-5.12	-233681.52	3.45	7.89	6.94	3.15	0.25061
26	presto/tpcds/q27	5427831.07	376556.29	5172926.61	397763.52	5245597.17	274453.13	-4.70	-254904.46	-3.36	6.94	7.69	5.23	0.28088
85	presto/tpcds/q86	1278147.06	119279.38	1219975.95	33637.91	1283996.35	68798.17	-4.55	-58171.11	0.46	9.33	2.76	5.36	0.27700
64	presto/tpcds/q65	19046900.55	537007.12	18205918.11	302223.30	18738604.84	633694.18	-4.42	-840982.44	-1.62	2.82	1.66	3.38	0.00745
5	presto/tpcds/q06	1212323.23	615443.91	1159824.38	115838.03	1203277.86	317908.01	-4.33	-52498.84	-0.75	50.77	9.99	26.42	0.84142
32	presto/tpcds/q33	2041477.96	116285.59	1953412.20	99290.18	1749063.83	155000.32	-4.31	-88065.76	-14.32	5.70	5.08	8.86	0.18866
23	presto/tpcds/q24	24766219.79	778619.01	23698562.51	591333.10	24943856.67	859989.89	-4.31	-1067657.29	0.72	3.14	2.50	3.45	0.02330
38	presto/tpcds/q39	1010937.08	17930.33	971626.93	20341.52	1025189.03	16134.12	-3.89	-39310.15	1.41	1.77	2.09	1.57	0.00526
57	presto/tpcds/q58	661714.77	38705.53	636477.46	99561.92	624443.44	45547.98	-3.81	-25237.31	-5.63	5.85	15.64	7.29	0.57559
60	presto/tpcds/q61	1853939.66	203958.34	1787392.66	261353.73	1935010.20	116438.25	-3.59	-66547.00	4.37	11.00	14.62	6.02	0.63355
17	presto/tpcds/q18	3858570.34	325378.69	3740553.66	271710.51	3765658.92	476608.70	-3.06	-118016.69	-2.41	8.43	7.26	12.66	0.51076
1	presto/tpcds/q02	2139104.27	111930.56	2074268.24	167188.96	2123219.38	150877.38	-3.03	-64836.02	-0.74	5.23	8.06	7.11	0.44822
58	presto/tpcds/q59	3497447.13	142609.80	3393172.69	208353.16	3459580.33	228255.75	-2.98	-104274.44	-1.08	4.08	6.14	6.60	0.33557

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
73	presto/tpcds/q74	30302593.85	1923160.86	29413790.77	1086898.37	31127860.68	531286.96	-2.93	-888803.09	2.72	6.35	3.70	1.71	0.34760
61	presto/tpcds/q62	704895.32	20112.14	686899.72	55852.09	699794.54	12672.19	-2.55	-17995.60	-0.72	2.85	8.13	1.81	0.47483
48	presto/tpcds/q49	20637329.70	518853.27	20142250.34	1419305.11	20376842.13	733567.61	-2.40	-495079.36	-1.26	2.51	7.05	3.60	0.44093
22	presto/tpcds/q23	49717818.49	774096.73	48669815.66	687652.97	49260747.46	548700.06	-2.11	-1048002.83	-0.92	1.56	1.41	1.11	0.03258
7	presto/tpcds/q08	703933.77	190643.52	689213.36	191110.86	672212.00	147956.64	-2.09	-14720.41	-4.51	27.08	27.73	22.01	0.89639
27	presto/tpcds/q28	129014.45	1118.81	126327.09	2367.54	128041.27	4516.05	-2.08	-2687.36	-0.75	0.87	1.87	3.53	0.03071
63	presto/tpcds/q64	47282797.94	2250848.18	46305455.73	2568724.61	47059415.37	1956018.84	-2.07	-977342.21	-0.47	4.76	5.55	4.16	0.49932
3	presto/tpcds/q04	85717403.01	4093689.26	84145321.82	3811546.21	84400801.87	5554787.89	-1.83	-1572081.19	-1.54	4.78	4.53	6.58	0.50682
37	presto/tpcds/q38	20289408.25	2121655.90	19931573.56	1772263.79	19519415.71	2644560.72	-1.76	-357834.69	-3.80	10.46	8.89	13.55	0.75772
28	presto/tpcds/q29	7834376.31	201286.95	7746914.23	236178.29	7843161.32	253997.56	-1.12	-87462.08	0.11	2.57	3.05	3.24	0.50566
92	presto/tpcds/q93	22532457.93	146009.29	22288380.99	155746.32	22562702.50	139847.86	-1.08	-244076.94	0.13	0.65	0.70	0.62	0.01878
56	presto/tpcds/q57	8584561.35	226729.35	8503777.13	291920.56	8602492.75	674068.81	-0.94	-80784.21	0.21	2.64	3.43	7.84	0.60411
24	presto/tpcds/q25	9694296.92	460786.81	9605247.57	907209.08	9691611.46	660309.12	-0.92	-89049.35	-0.03	4.75	9.44	6.81	0.83457
16	presto/tpcds/q17	13731095.92	283610.24	13639196.09	269161.49	13230724.99	1188183.18	-0.67	-91899.84	-3.64	2.07	1.97	8.98	0.57753
94	presto/tpcds/q95	77328679.74	149515.56	77111254.38	348307.00	77156526.62	269258.58	-0.28	-217425.35	-0.22	0.19	0.45	0.35	0.19030
66	presto/tpcds/q67	68428257.98	64402.68	68315846.13	208771.23	68429179.46	56434.98	-0.16	-112411.84	0.00	0.09	0.31	0.08	0.23617
10	presto/tpcds/q11	68651361.10	340232.06	68627785.86	206877.15	68492080.36	521536.68	-0.03	-23575.24	-0.23	0.50	0.30	0.76	0.88757
77	presto/tpcds/q78	92986430.23	164522.14	92990154.88	82782.27	92982049.91	178311.43	0.00	3724.65	-0.00	0.18	0.09	0.19	0.96147
43	presto/tpcds/q44	460331.76	606.93	460391.92	472.10	460629.22	548.06	0.01	60.16	0.06	0.13	0.10	0.12	0.85186
71	presto/tpcds/q72	48749262.61	642570.97	48826162.74	95779.69	47455260.08	3026145.76	0.16	76900.14	-2.65	1.32	0.20	6.38	0.77778
93	presto/tpcds/q94	9347923.45	129478.39	9365953.94	166802.69	9295449.20	155494.47	0.19	18030.48	-0.56	1.39	1.78	1.67	0.83852
96	presto/tpcds/q97	32605129.75	40229.40	32680105.02	112847.93	32608526.26	62424.47	0.23	74975.27	0.01	0.12	0.35	0.19	0.15630
74	presto/tpcds/q75	20341594.38	181163.20	20459316.39	304931.09	20565558.98	206134.47	0.58	117722.00	1.10	0.89	1.49	1.00	0.43515
50	presto/tpcds/q51	8631626.46	349598.75	8698124.73	464143.88	8823656.32	169003.24	0.77	66498.27	2.22	4.05	5.34	1.92	0.78495
45	presto/tpcds/q46	2903508.16	200464.35	2940449.69	205010.96	3004069.44	379173.40	1.27	36941.52	3.46	6.90	6.97	12.62	0.75881
78	presto/tpcds/q79	2944517.74	92663.27	2983748.41	154951.90	3028949.99	141702.64	1.33	39230.67	2.87	3.15	5.19	4.68	0.60618
47	presto/tpcds/q48	5342933.19	314065.98	5426570.82	122987.45	5451072.73	306363.70	1.57	83637.63	2.02	5.88	2.27	5.62	0.55712
15	presto/tpcds/q16	19808594.38	496859.81	20161740.12	140126.31	20140501.25	178099.83	1.78	353145.74	1.68	2.51	0.70	0.88	0.12475
12	presto/tpcds/q13	8910582.07	425051.59	9071443.88	840898.47	9127232.65	484880.85	1.81	160861.81	2.43	4.77	9.27	5.31	0.68465
35	presto/tpcds/q36	3784868.51	377933.85	3856585.72	230762.80	4040916.87	557430.34	1.89	71717.21	6.77	9.99	5.98	13.79	0.69991
65	presto/tpcds/q66	1880406.37	442760.10	1920285.81	209305.76	1863922.77	411341.88	2.12	39879.45	-0.88	23.55	10.90	22.07	0.84590
86	presto/tpcds/q87	19435583.71	1307156.09	19887760.93	1272510.17	19526463.59	2307826.98	2.33	452177.22	0.47	6.73	6.40	11.82	0.55728



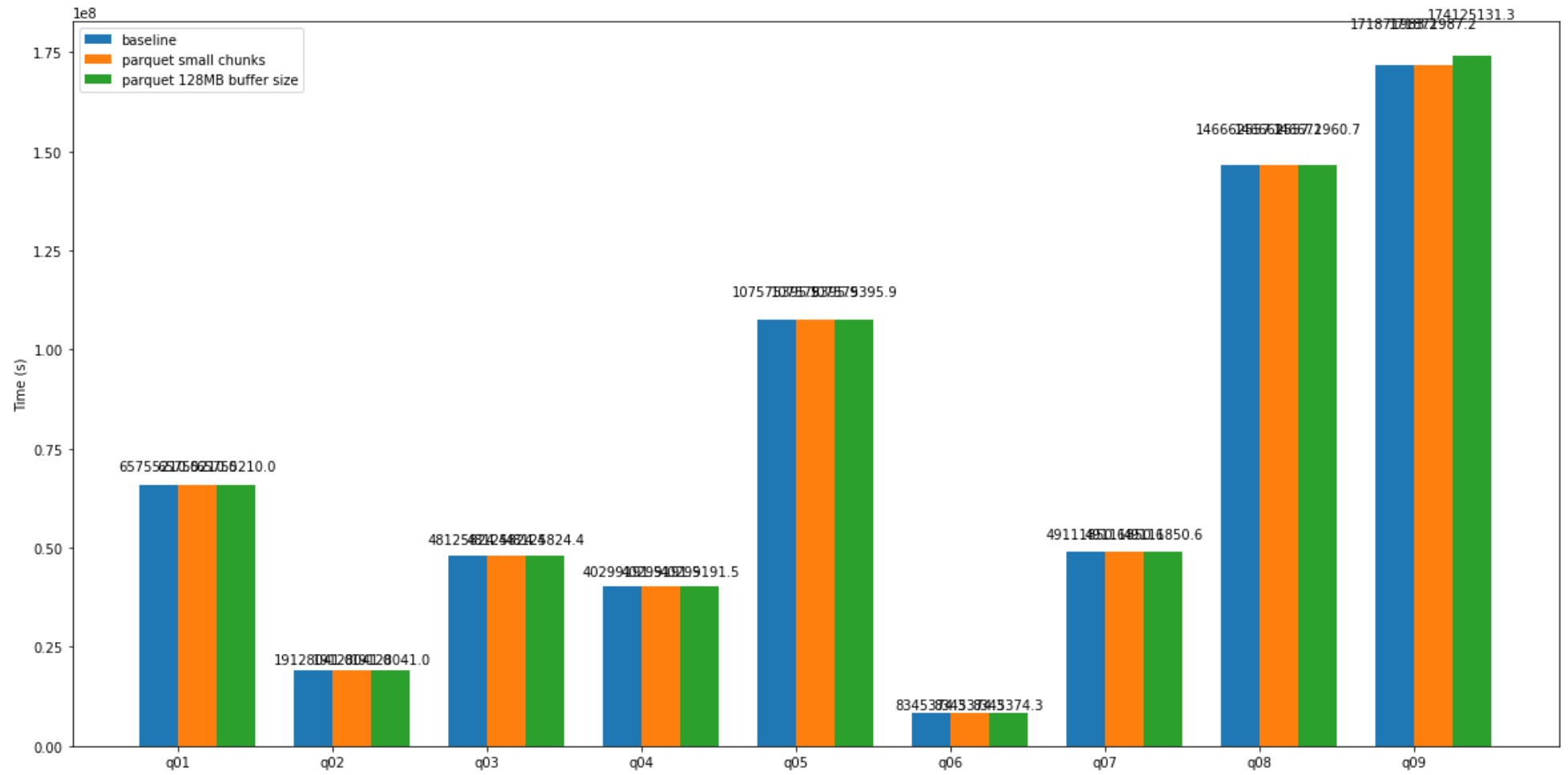


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## TPC-H Comparison (physicalInputDataSize)





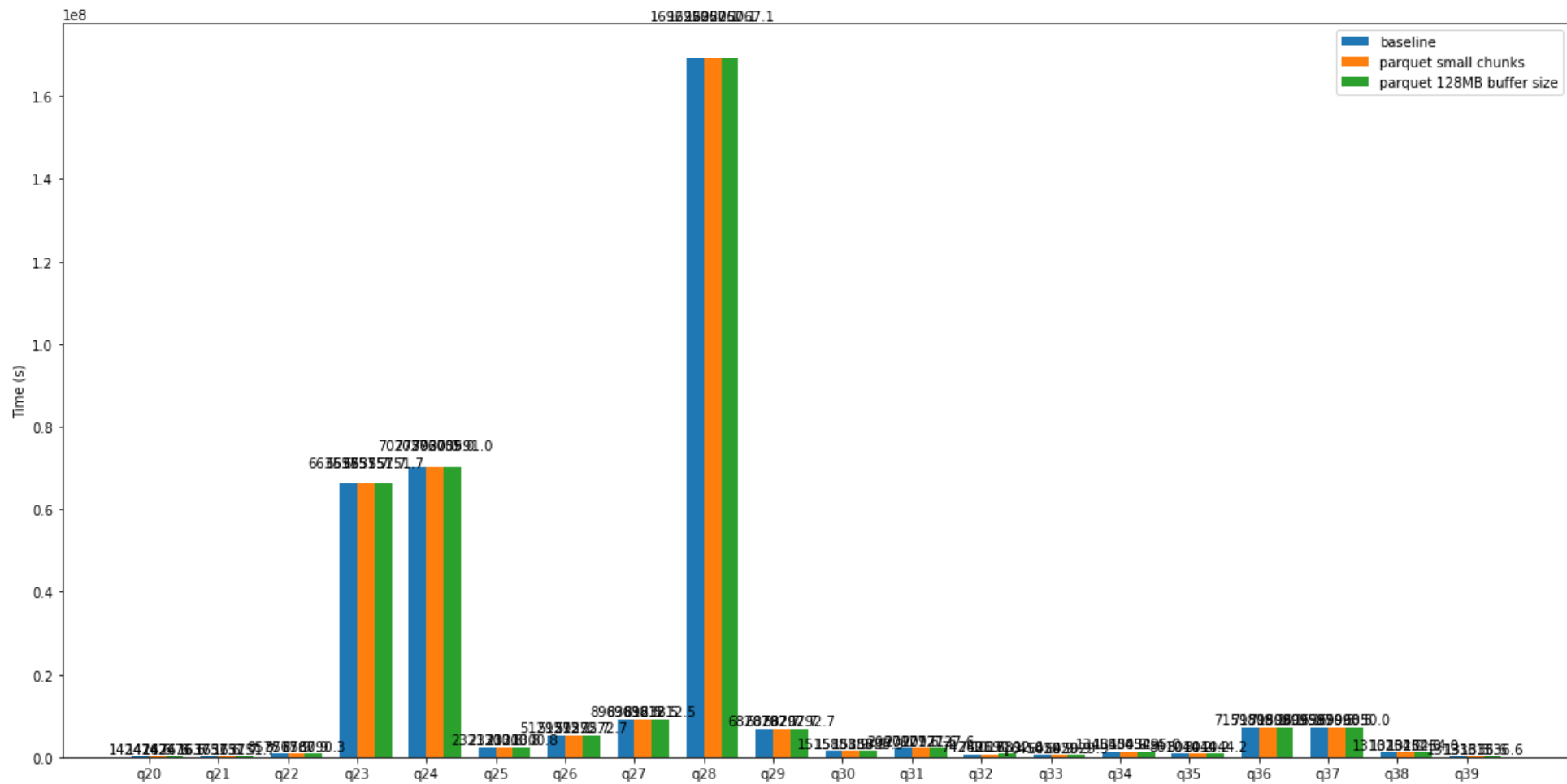
	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value	
20	presto/tpch/q21	208216936.41	0.00	208216936.41	0.00	208216936.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
10	presto/tpch/q11	18383978.53	0.00	18383978.53	0.00	18383978.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
6	presto/tpch/q07	49111850.64	0.00	49111850.64	0.00	49111850.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
5	presto/tpch/q06	8345374.27	0.00	8345374.27	0.00	8345374.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
4	presto/tpch/q05	107575395.94	0.00	107575395.94	0.00	107575395.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
3	presto/tpch/q04	40299191.52	0.00	40299191.52	0.00	40299191.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
2	presto/tpch/q03	48125824.40	0.00	48125824.40	0.00	48125824.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
1	presto/tpch/q02	19128040.95	0.00	19128040.95	0.00	19128040.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpch/q22	14611013.46	0.00	14611013.46	0.00	14611013.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
7	presto/tpch/q08	146662557.13	0.00	146662557.21	0.00	146671960.69	0.00	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.00000
9	presto/tpch/q10	49849956.15	0.00	49849956.23	0.00	49890770.81	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.00	0.00000
8	presto/tpch/q09	171871983.23	0.00	171871987.15	5.97	174125131.31	4.31	0.00	3.92	1.31	0.00	0.00	0.00	0.00	0.13846
11	presto/tpch/q12	15584143.91	0.00	15592532.51	0.00	15596657.11	0.00	0.05	8388.61	0.08	0.00	0.00	0.00	0.00	0.00000

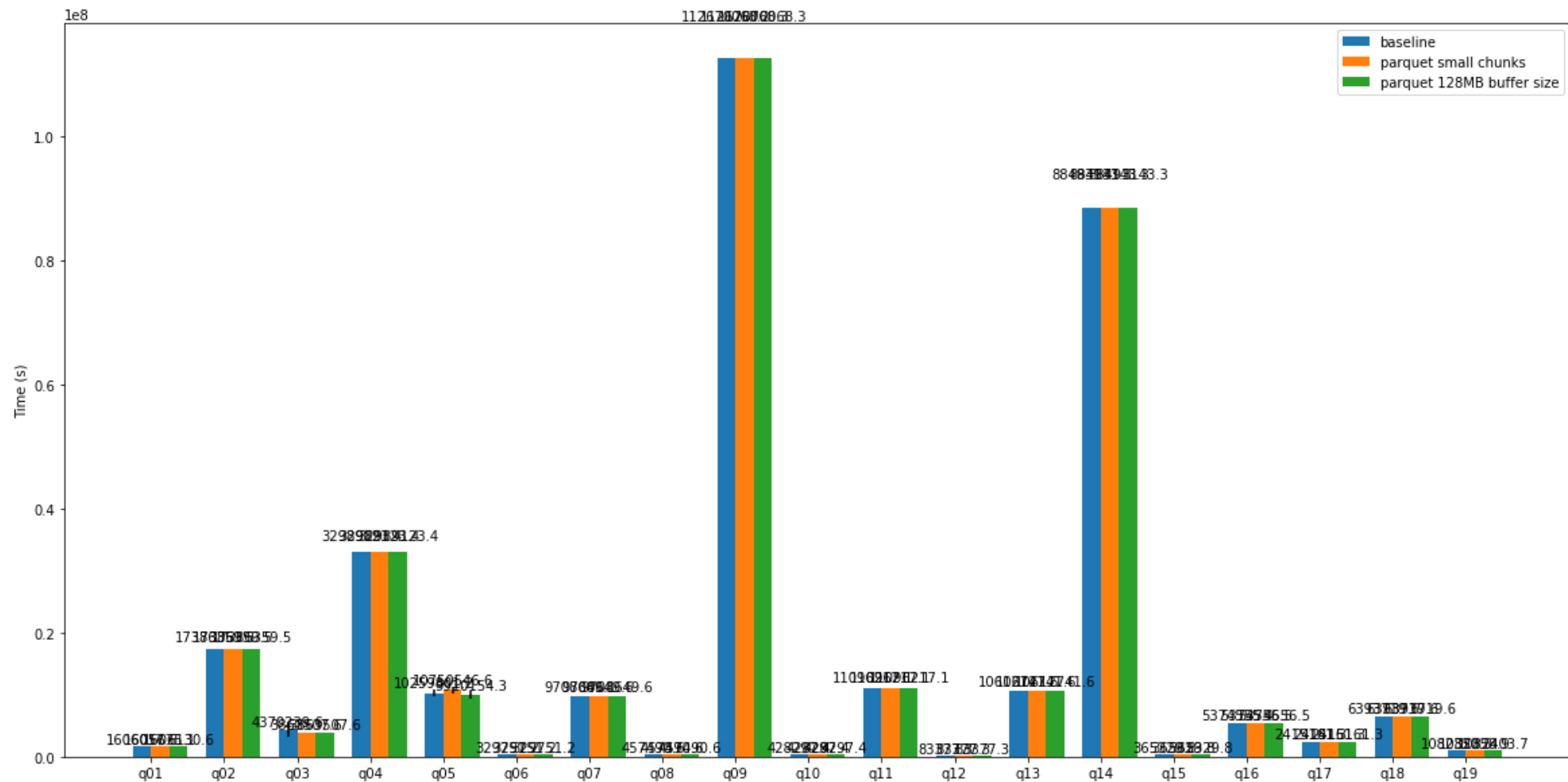
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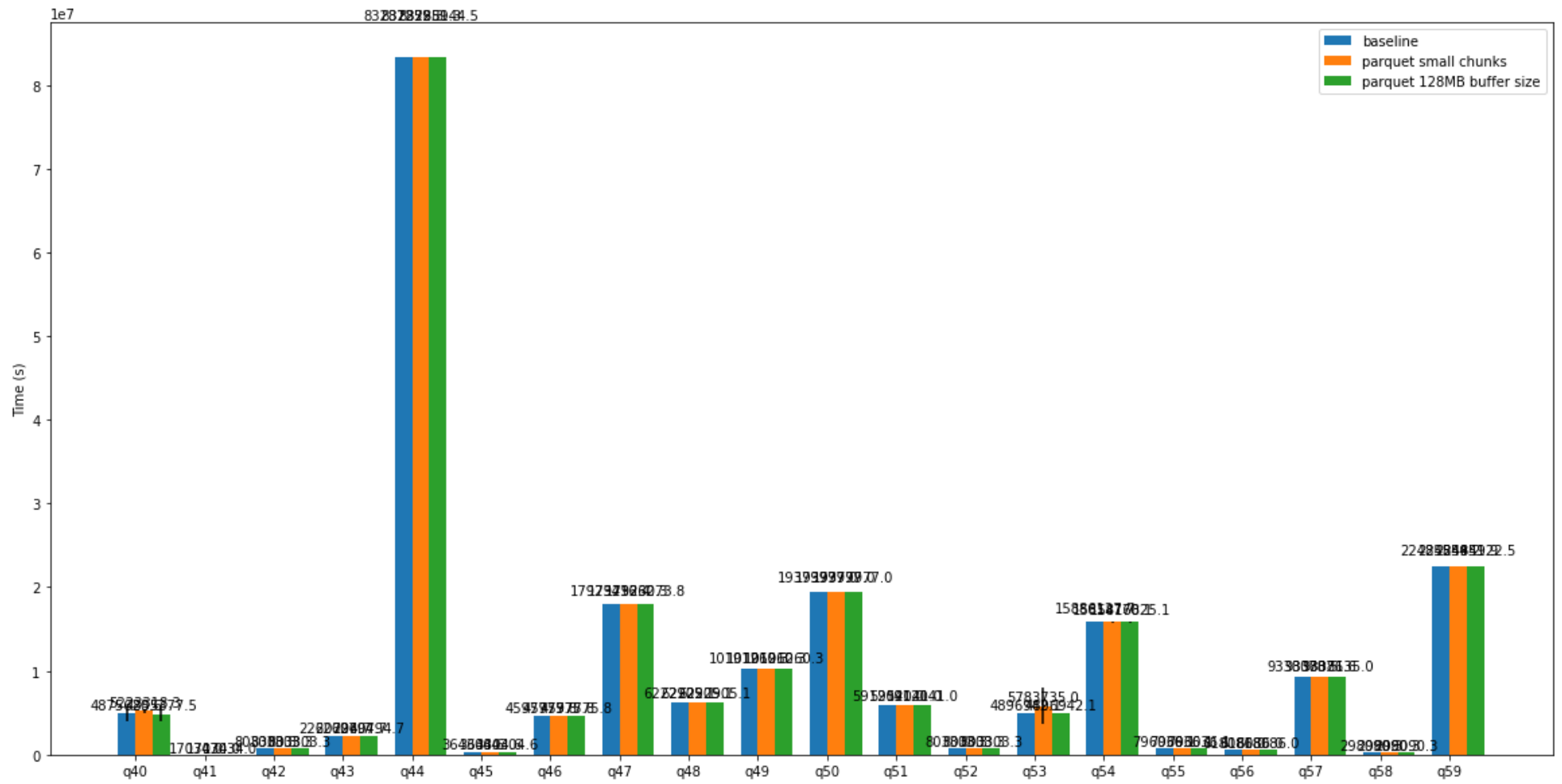
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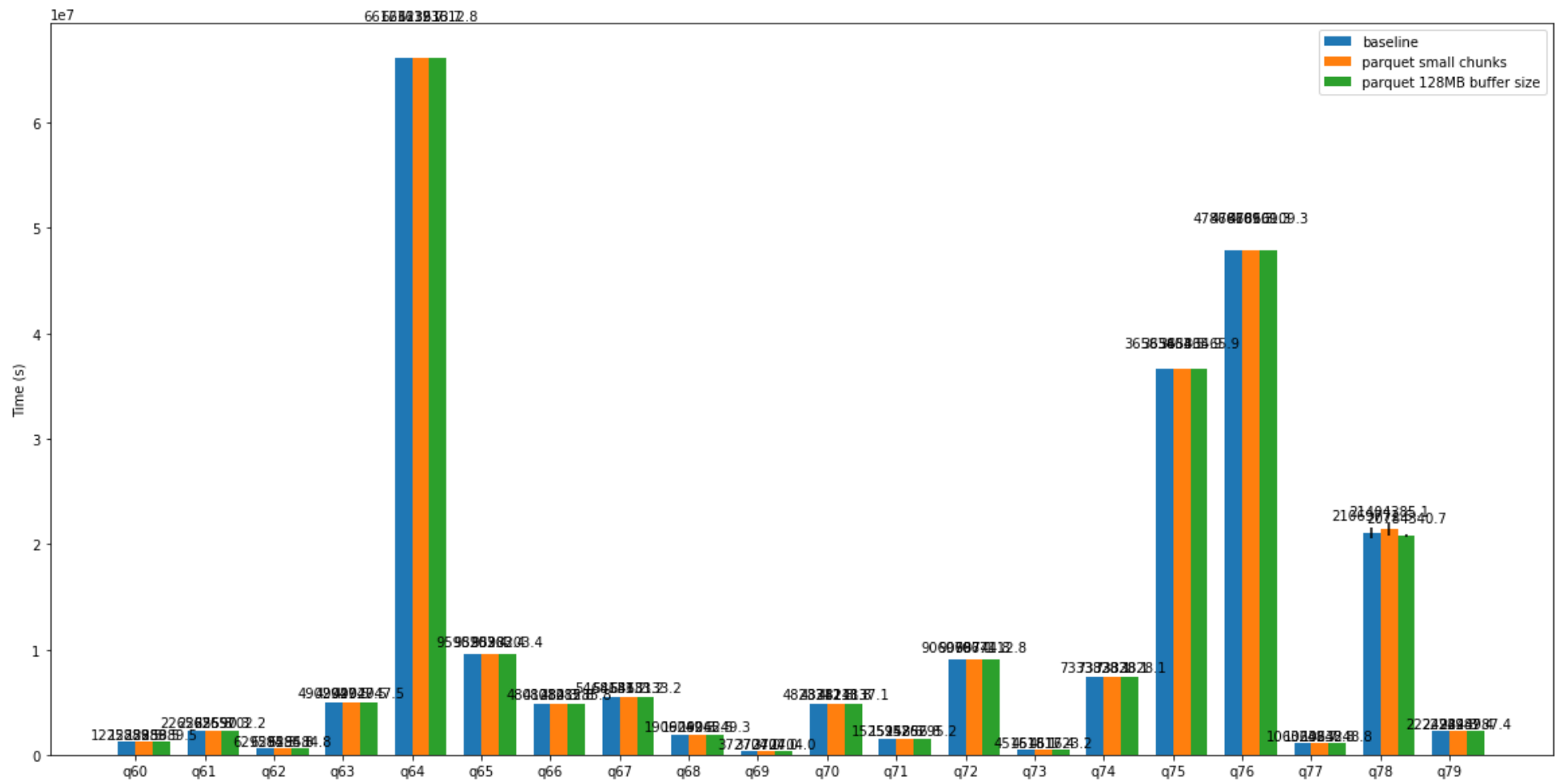
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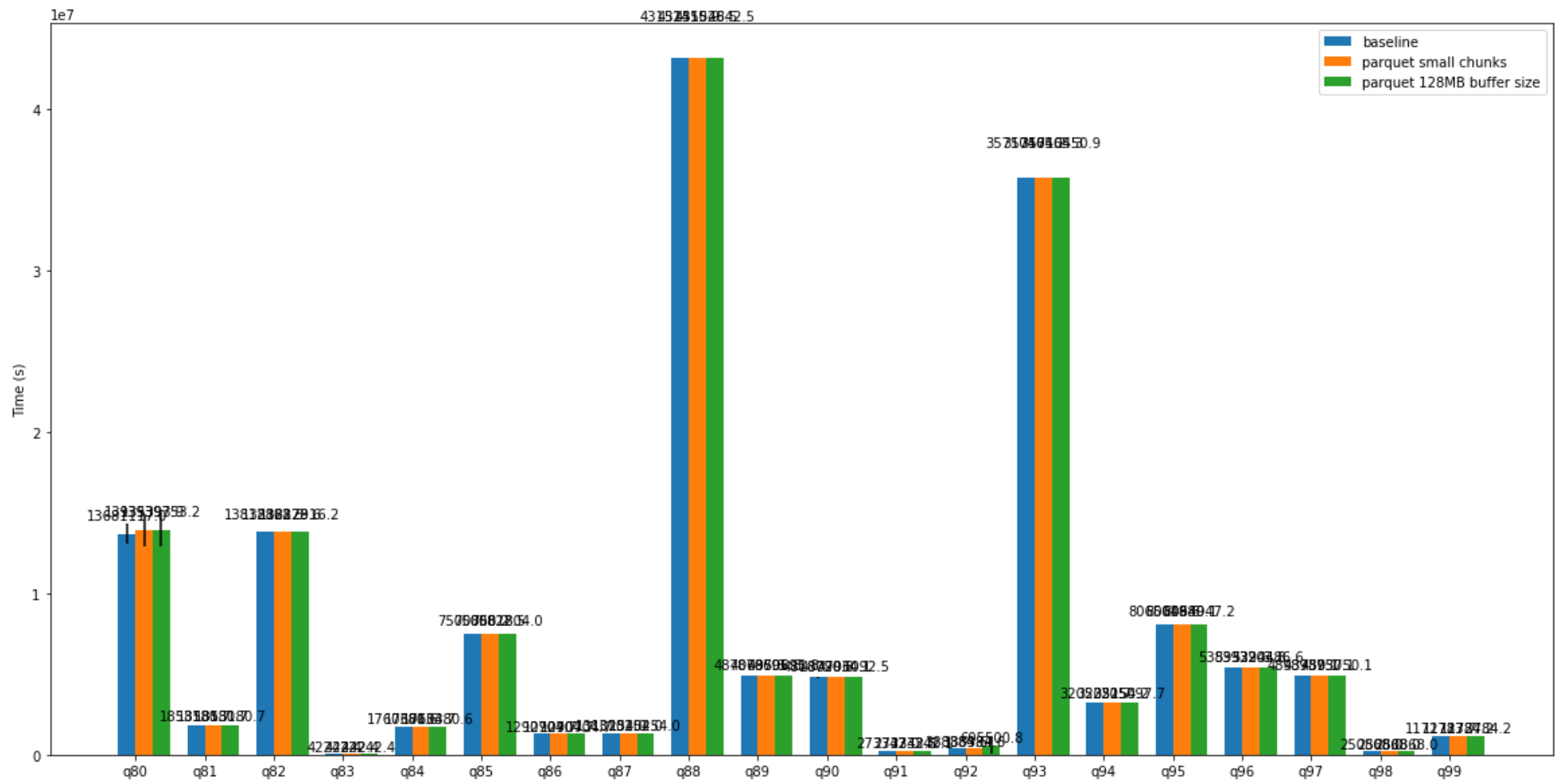
## TPC-DS Comparison (physicalInputDataSize)



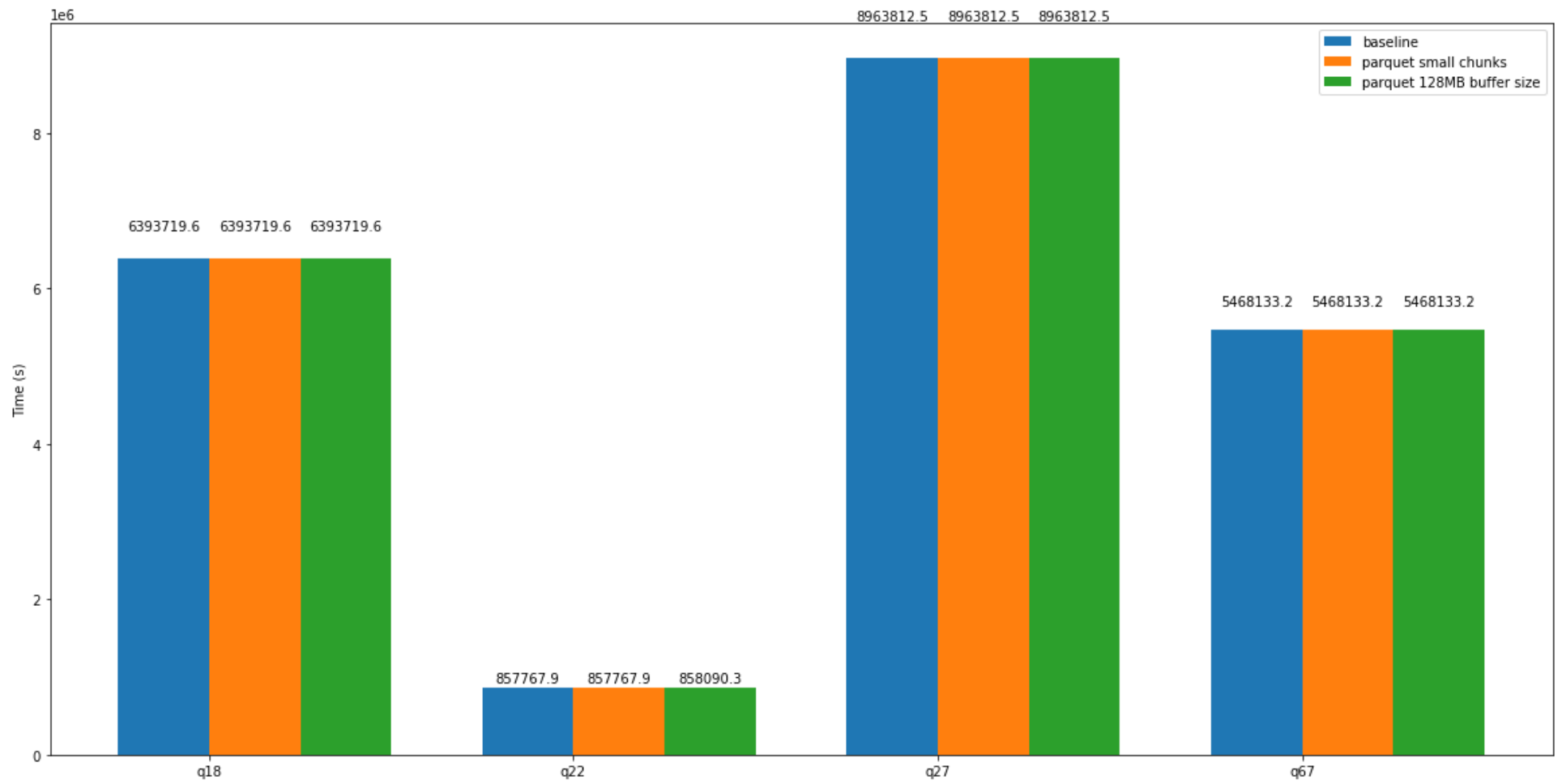












id	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
2	presto/tpcds/q03	4370239.65	1241235.01	3863507.58	0.00	3863507.58	0.00	-11.60	-506732.07	-11.60	28.40	0.00	0.00	0.34089
53	presto/tpcds/q54	15886127.73	39882.05	15814770.14	99331.86	15816825.14	40319.52	-0.45	-71357.59	-0.44	0.25	0.63	0.25	0.13353
89	presto/tpcds/q90	4810720.78	34135.08	4809034.15	16915.15	4796092.47	17759.25	-0.04	-1686.63	-0.30	0.71	0.35	0.37	0.91579
0	presto/tpcds/q01	1606017.56	441.29	1605675.14	580.96	1606130.59	142.28	-0.02	-342.43	0.01	0.03	0.04	0.01	0.27702
83	presto/tpcds/q84	1760380.56	602.33	1760134.66	761.89	1760380.56	602.33	-0.01	-245.90	0.00	0.03	0.04	0.03	0.54901
71	presto/tpcds/q72	9069797.06	3373.22	9068744.83	4642.62	9067112.79	4624.11	-0.01	-1052.23	-0.03	0.04	0.05	0.05	0.66291
70	presto/tpcds/q71	1525942.65	826.84	1525856.85	1005.61	1526295.20	374.49	-0.01	-85.80	0.02	0.05	0.07	0.02	0.87497
33	presto/tpcds/q34	1345500.92	0.00	1345432.42	118.30	1345495.03	14.42	-0.01	-68.50	-0.00	0.00	0.01	0.00	0.18652
58	presto/tpcds/q59	22485554.17	0.00	22484951.90	1475.26	22484922.47	1547.35	-0.00	-602.27	-0.00	0.00	0.01	0.01	0.34089

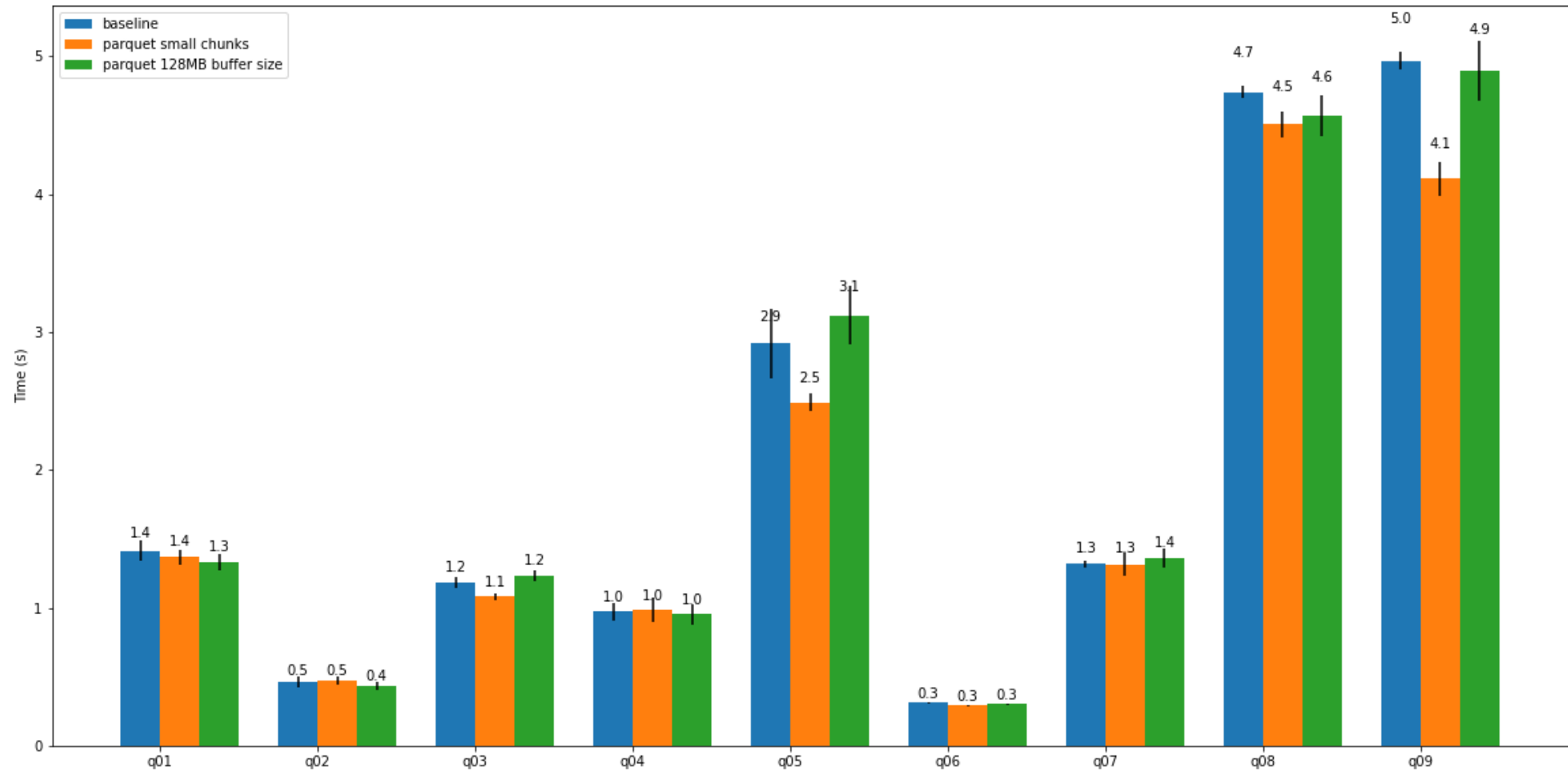


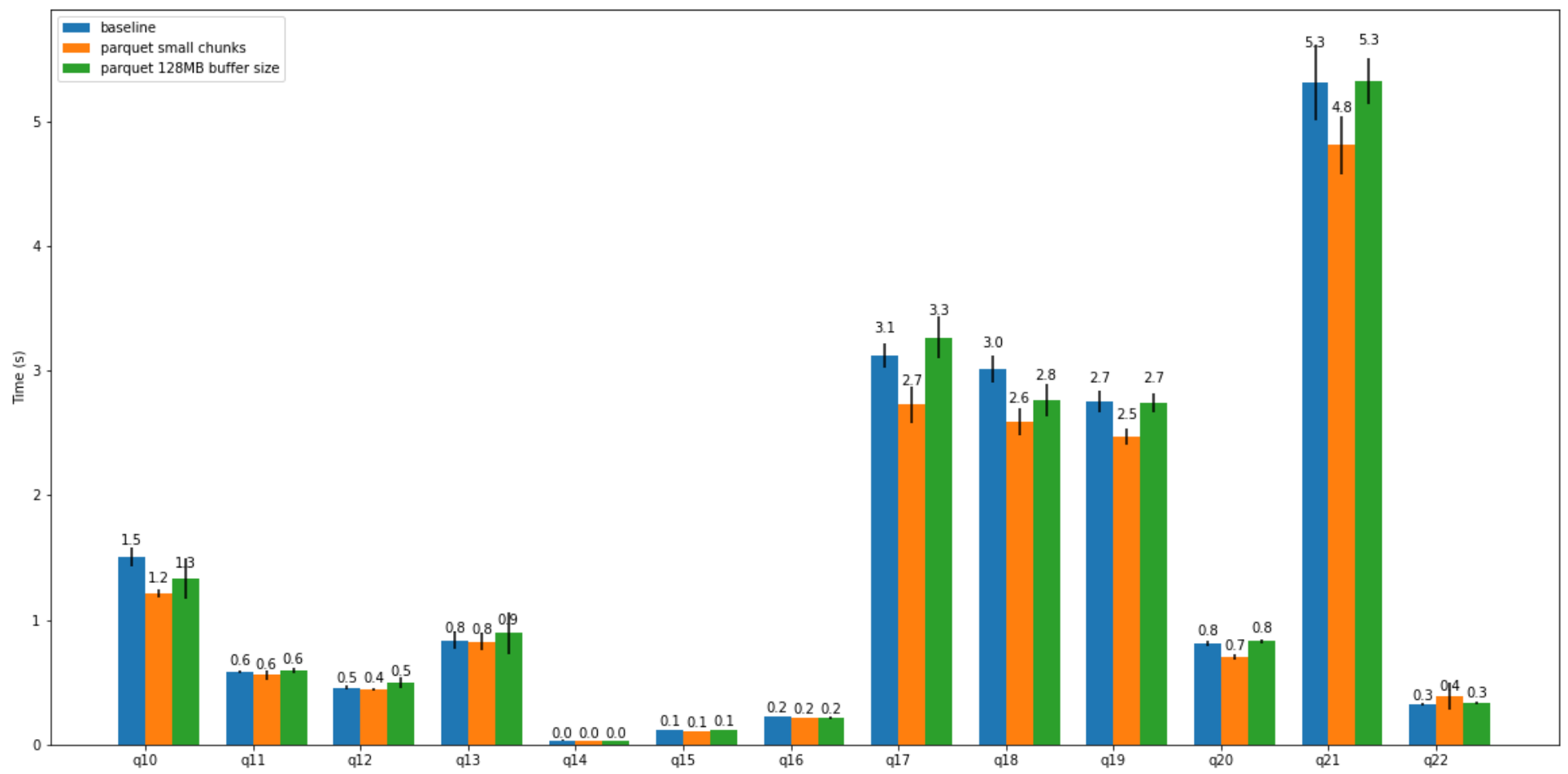
	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
59	presto/tpcds/q60	1225889.48	0.00	1225889.48	0.00	1225889.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
43	presto/tpcds/q44	83287259.32	0.00	83287259.32	0.00	83288144.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
49	presto/tpcds/q50	19379977.03	0.00	19379977.03	0.00	19379977.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
41	presto/tpcds/q42	803303.27	0.00	803303.27	0.00	803303.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
1	presto/tpcds/q02	17386359.50	0.00	17386359.50	0.00	17386359.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
3	presto/tpcds/q04	32989123.42	0.00	32989123.42	0.00	32989123.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
5	presto/tpcds/q06	329751.15	0.00	329751.15	0.00	329751.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
7	presto/tpcds/q08	457490.56	0.00	457490.56	0.00	457490.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
9	presto/tpcds/q10	428297.42	0.00	428297.42	0.00	428297.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
10	presto/tpcds/q11	11096217.11	0.00	11096217.11	0.00	11096217.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
11	presto/tpcds/q12	83377.27	0.00	83377.27	0.00	83377.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
12	presto/tpcds/q13	10612741.59	0.00	10612741.59	0.00	10612741.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
13	presto/tpcds/q14	88493143.33	0.00	88493143.33	0.00	88493143.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
14	presto/tpcds/q15	365329.81	0.00	365329.81	0.00	365329.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
16	presto/tpcds/q17	2415161.34	0.00	2415161.34	0.00	2415161.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
42	presto/tpcds/q43	2260794.66	0.00	2260794.66	0.00	2260794.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
19	presto/tpcds/q20	142476.63	0.00	142476.63	0.00	142476.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpcds/q22	857767.85	0.00	857767.85	0.00	858090.28	0.00	0.00	0.00	0.04	0.00	0.00	0.00	nan
22	presto/tpcds/q23	66355751.75	0.00	66355751.75	0.00	66355751.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
17	presto/tpcds/q18	6393719.58	0.00	6393719.58	0.00	6393719.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
32	presto/tpcds/q33	645029.86	0.00	645029.86	0.00	645029.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
40	presto/tpcds/q41	17033.99	0.00	17033.99	0.00	17033.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
34	presto/tpcds/q35	801044.25	0.00	801044.25	0.00	801044.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
35	presto/tpcds/q36	7159809.06	0.00	7159809.06	0.00	7159809.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
30	presto/tpcds/q31	2097127.57	0.00	2097127.57	0.00	2097127.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
26	presto/tpcds/q27	8963812.55	0.00	8963812.55	0.00	8963812.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
29	presto/tpcds/q30	1515883.88	0.00	1515883.88	0.00	1515883.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
27	presto/tpcds/q28	169225067.09	0.00	169225067.09	0.00	169225067.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
37	presto/tpcds/q38	1310253.97	0.00	1310253.97	0.00	1310253.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
24	presto/tpcds/q25	2321300.82	0.00	2321300.82	0.00	2321300.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
28	presto/tpcds/q29	6820792.74	0.00	6820792.74	0.00	6820792.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	nan
8	presto/tpcds/q09	112670068.22	0.00	112670068.26	0.00	112670068.26	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00000



```
count    99
mean      1
std       7
min     -12
25%       0
50%       0
75%       0
max       56
Name: % change base -> parquet 128MB buffer size, dtype: float64
```

## TPC-H Comparison (physicalInputReadTime)





	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
9	presto/tpch/q10	1.51	0.07	1.21	0.03	1.33	0.16	-19.61	-0.30	-11.74	4.96	2.87	12.40	0.00001
8	presto/tpch/q09	4.97	0.06	4.11	0.12	4.90	0.21	-17.27	-0.86	-1.45	1.30	2.90	4.39	0.00000
4	presto/tpch/q05	2.92	0.26	2.49	0.07	3.12	0.21	-14.71	-0.43	7.00	8.76	2.62	6.76	0.00258
17	presto/tpch/q18	3.01	0.11	2.59	0.11	2.77	0.13	-14.05	-0.42	-8.14	3.57	4.13	4.73	0.00005
19	presto/tpch/q20	0.81	0.02	0.70	0.02	0.83	0.01	-13.62	-0.11	2.29	2.13	3.30	1.64	0.00000
16	presto/tpch/q17	3.12	0.10	2.72	0.15	3.26	0.17	-12.76	-0.40	4.50	3.10	5.47	5.23	0.00026
13	presto/tpch/q14	0.03	0.01	0.03	0.00	0.03	0.00	-11.13	-0.00	-13.55	17.22	0.65	3.55	0.14468
18	presto/tpch/q19	2.75	0.09	2.47	0.06	2.74	0.08	-10.29	-0.28	-0.24	3.13	2.60	2.74	0.00007
20	presto/tpch/q21	5.31	0.30	4.81	0.24	5.32	0.18	-9.49	-0.50	0.23	5.70	4.89	3.41	0.00917
2	presto/tpch/q03	1.18	0.04	1.08	0.03	1.23	0.04	-8.89	-0.11	4.15	3.53	2.63	3.05	0.00046

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
14	presto/tpch/q15	0.12	0.00	0.11	0.00	0.12	0.00	-8.08	-0.01	0.85	1.55	1.70	3.23	0.00000
5	presto/tpch/q06	0.31	0.00	0.29	0.00	0.30	0.00	-6.07	-0.02	-2.00	0.61	1.38	1.58	0.00000
10	presto/tpch/q11	0.59	0.01	0.56	0.04	0.59	0.02	-5.11	-0.03	0.83	1.61	6.48	4.17	0.07719
7	presto/tpch/q08	4.74	0.04	4.51	0.09	4.57	0.15	-4.94	-0.23	-3.54	0.92	2.05	3.27	0.00022
15	presto/tpch/q16	0.22	0.00	0.22	0.00	0.22	0.01	-3.41	-0.01	-2.11	1.25	1.77	4.58	0.00275
0	presto/tpch/q01	1.41	0.08	1.37	0.05	1.33	0.06	-3.40	-0.05	-6.22	5.49	3.77	4.48	0.23445
11	presto/tpch/q12	0.46	0.02	0.45	0.01	0.50	0.04	-1.95	-0.01	9.90	3.66	2.42	8.66	0.29923
12	presto/tpch/q13	0.84	0.07	0.83	0.07	0.89	0.17	-1.32	-0.01	6.67	8.93	8.62	18.65	0.79782
6	presto/tpch/q07	1.32	0.03	1.32	0.08	1.36	0.07	-0.17	-0.00	2.92	2.05	6.04	5.08	0.94782
3	presto/tpch/q04	0.97	0.07	0.99	0.09	0.95	0.07	1.30	0.01	-2.02	6.76	8.80	7.74	0.78095
1	presto/tpch/q02	0.46	0.04	0.47	0.03	0.43	0.03	1.64	0.01	-6.42	8.85	5.47	6.50	0.70927
21	presto/tpch/q22	0.32	0.01	0.39	0.11	0.34	0.01	21.31	0.07	4.57	3.39	28.09	3.18	0.15834

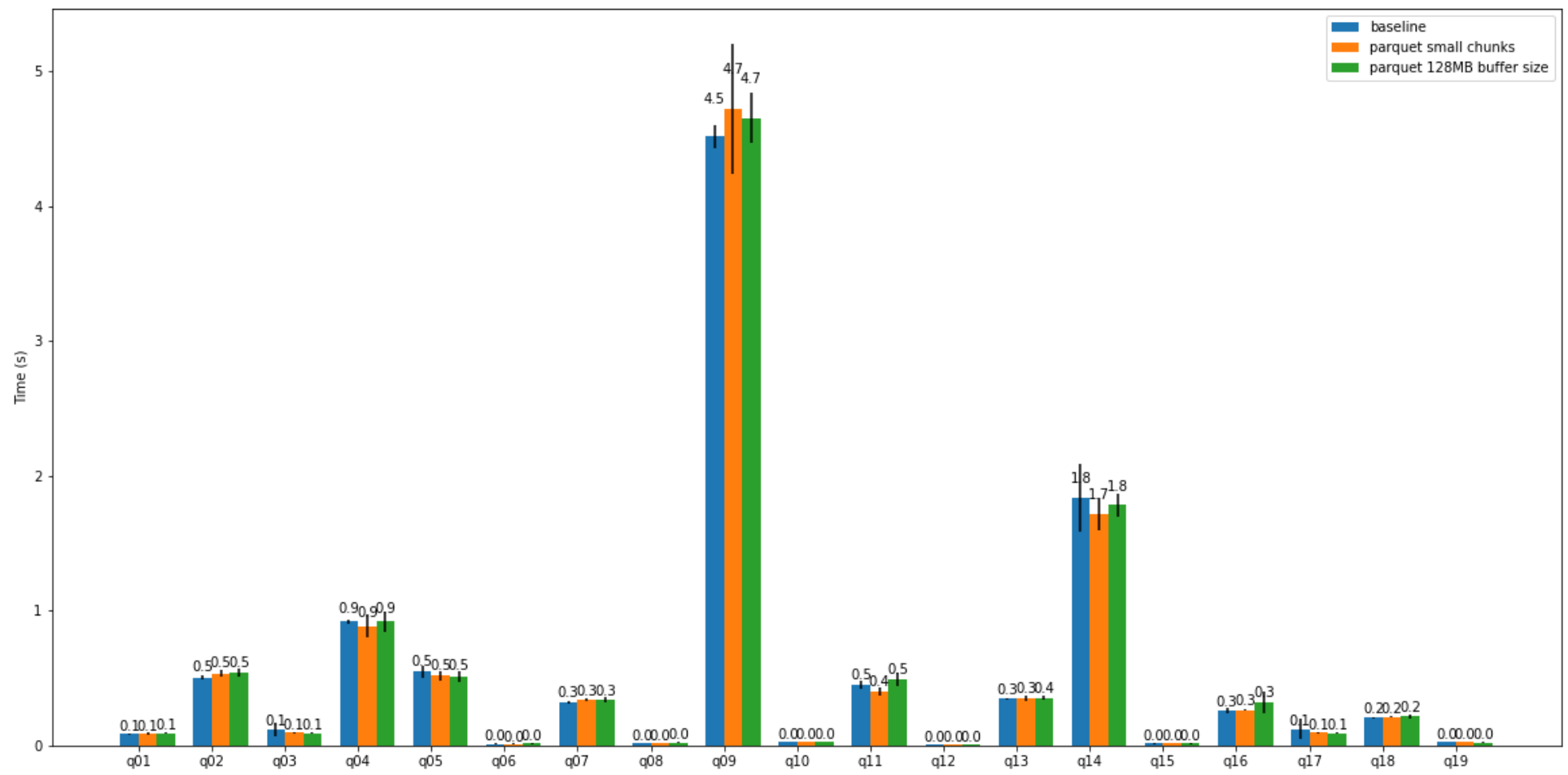
```
count    22
mean     -6
std       9
min     -20
25%     -12
50%      -7
75%      -2
max      21
```

Name: % change, dtype: float64

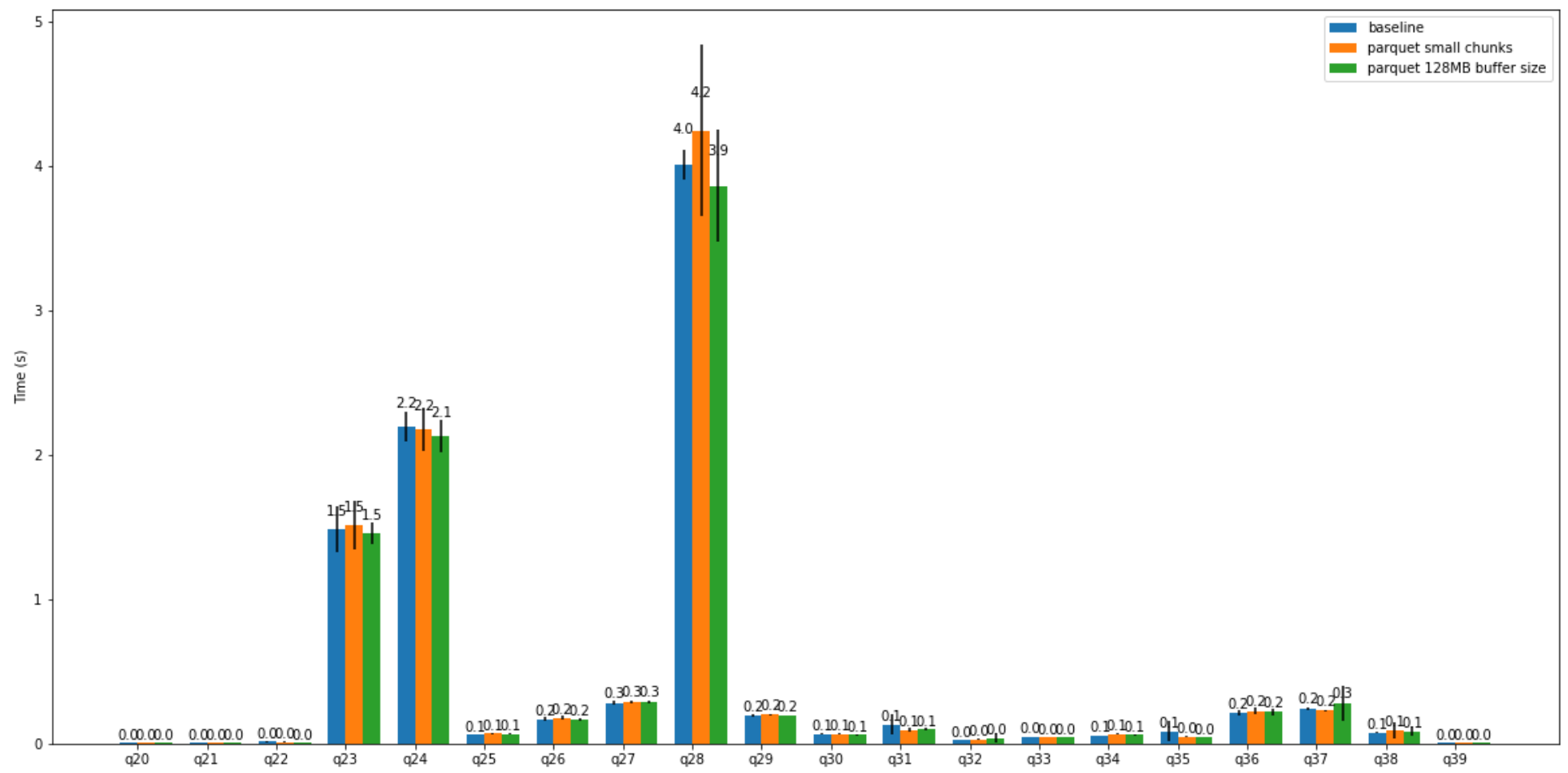
```
count    22
mean     -1
std       6
min     -14
25%      -3
50%      -0
75%       4
max      10
```

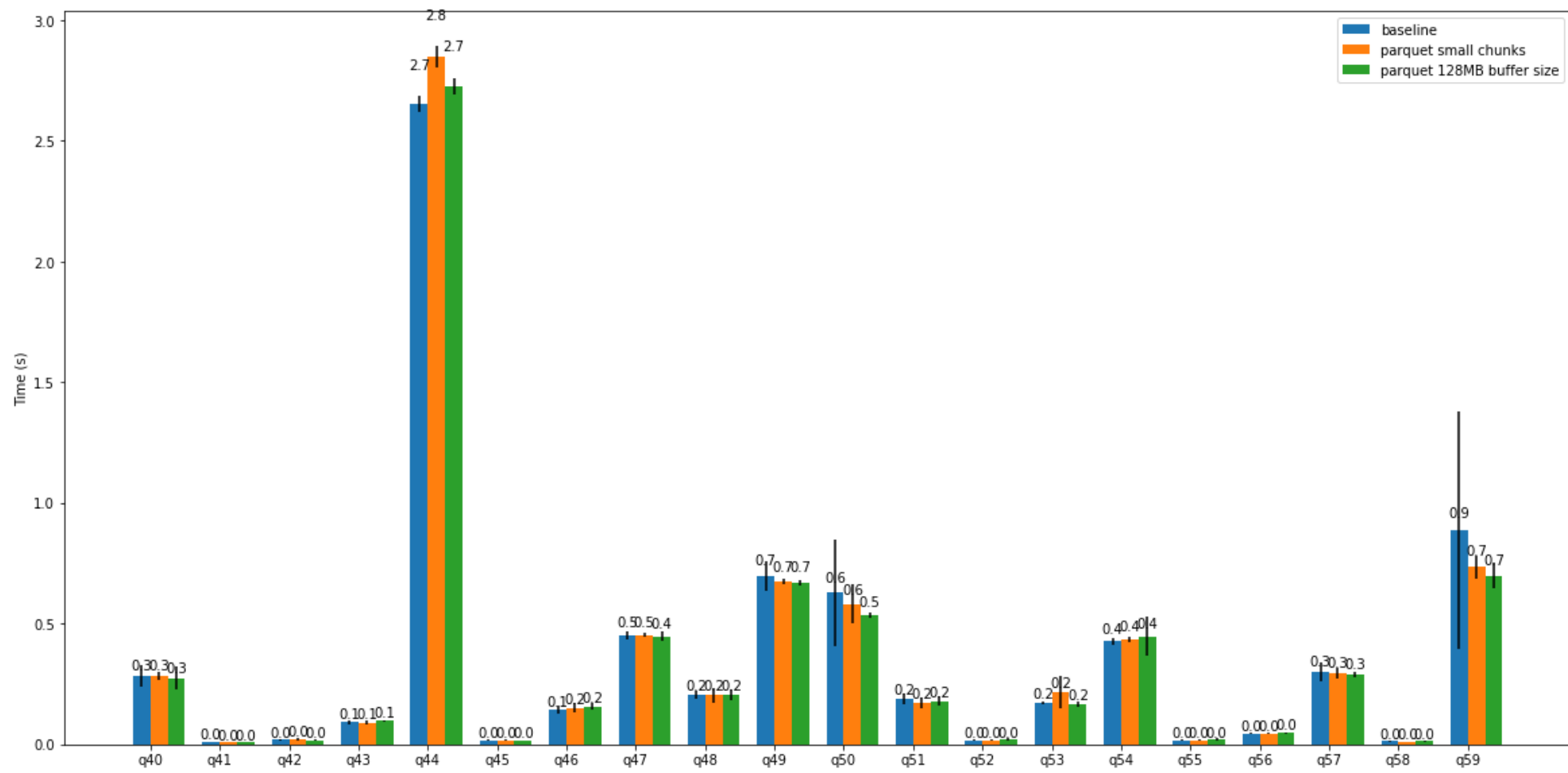
Name: % change base -> parquet 128MB buffer size, dtype: float64

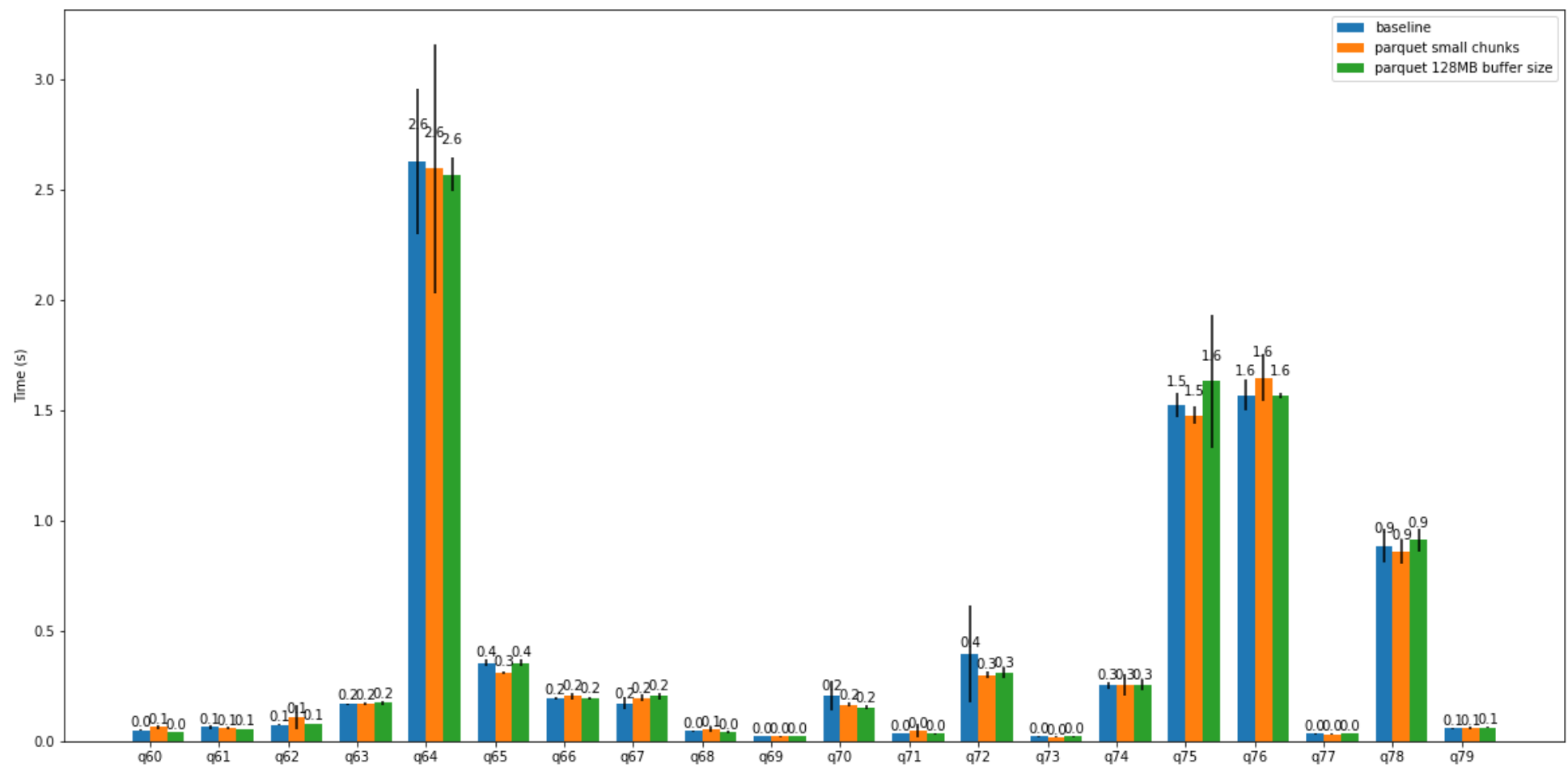
## TPC-DS Comparison (physicalInputReadTime)

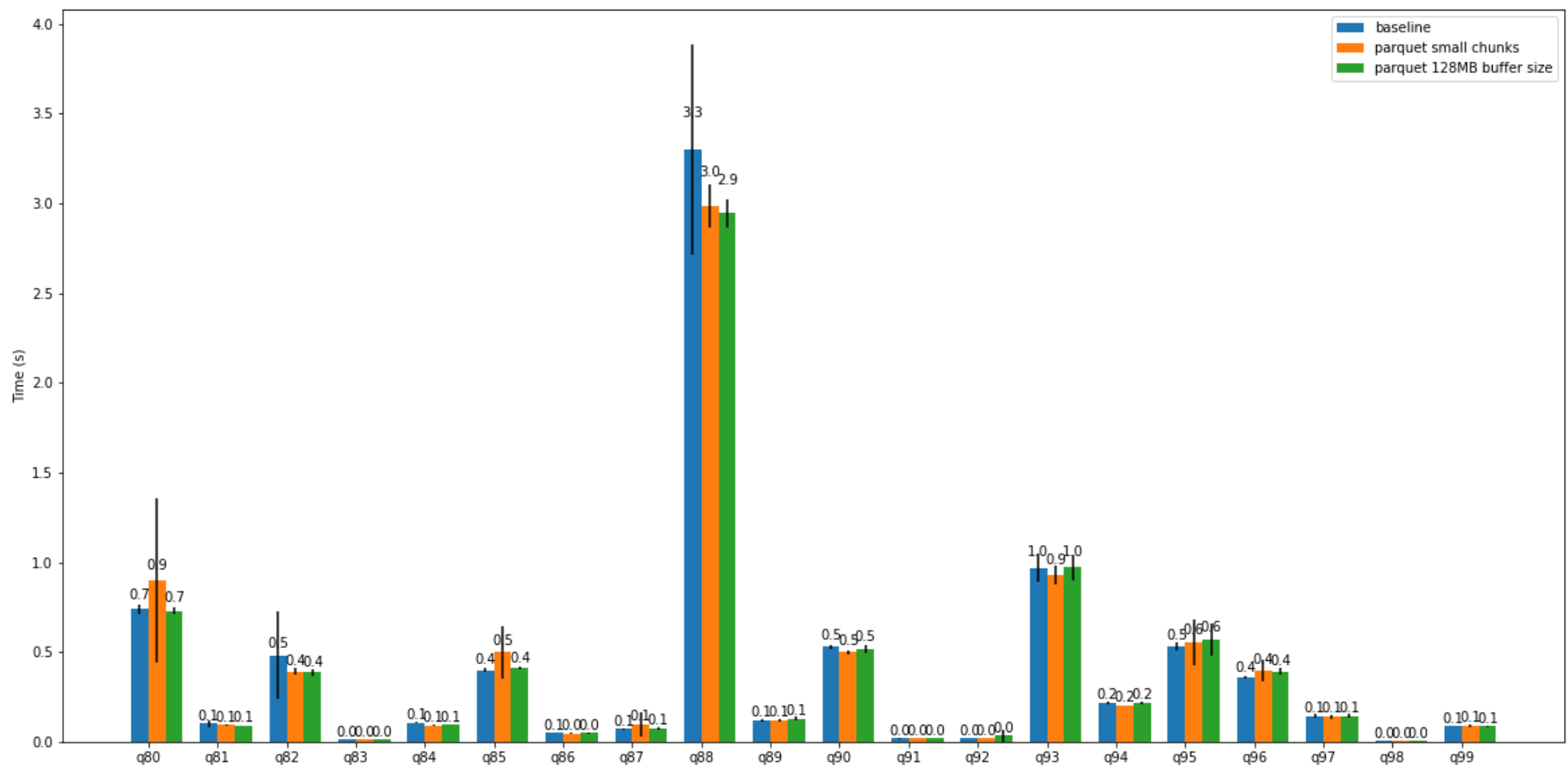












	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
34	presto/tpcds/q35	0.09	0.07	0.05	0.00	0.05	0.00	-44.12	-0.04	-45.75	79.76	4.90	4.72	0.20546
30	presto/tpcds/q31	0.13	0.07	0.10	0.01	0.10	0.01	-27.12	-0.04	-24.24	51.04	10.99	6.07	0.22750
71	presto/tpcds/q72	0.39	0.22	0.30	0.02	0.31	0.02	-24.33	-0.10	-22.02	55.38	5.21	8.01	0.30824
16	presto/tpcds/q17	0.12	0.08	0.09	0.00	0.09	0.00	-22.94	-0.03	-25.71	61.30	2.94	4.10	0.38122
69	presto/tpcds/q70	0.21	0.07	0.17	0.01	0.15	0.01	-20.63	-0.04	-26.57	32.10	5.80	6.44	0.15020
2	presto/tpcds/q03	0.12	0.05	0.10	0.00	0.09	0.01	-19.22	-0.02	-22.34	42.37	4.31	5.54	0.29397
81	presto/tpcds/q82	0.48	0.24	0.39	0.02	0.39	0.02	-19.02	-0.09	-20.07	50.17	4.84	4.37	0.37646
58	presto/tpcds/q59	0.89	0.49	0.74	0.05	0.70	0.05	-16.88	-0.15	-21.05	55.59	6.60	7.54	0.47614
68	presto/tpcds/q69	0.02	0.00	0.02	0.00	0.02	0.00	-15.03	-0.00	-2.50	6.22	3.79	8.70	0.00037
72	presto/tpcds/q73	0.02	0.00	0.02	0.00	0.02	0.00	-14.05	-0.00	-6.05	13.04	7.61	8.54	0.04005

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
83	presto/tpcds/q84	0.11	0.00	0.09	0.00	0.09	0.00	-13.20	-0.01	-11.12	4.07	1.15	1.47	0.00002
64	presto/tpcds/q65	0.35	0.01	0.31	0.01	0.35	0.01	-12.01	-0.04	-0.14	4.01	1.98	4.16	0.00005
21	presto/tpcds/q22	0.01	0.00	0.01	0.00	0.01	0.00	-11.70	-0.00	-16.81	24.20	1.84	0.97	0.26462
10	presto/tpcds/q11	0.45	0.03	0.40	0.03	0.49	0.05	-11.54	-0.05	8.47	6.17	6.80	10.73	0.00829
82	presto/tpcds/q83	0.01	0.00	0.01	0.00	0.01	0.00	-11.40	-0.00	-10.63	2.91	1.30	1.55	0.00000
87	presto/tpcds/q88	3.30	0.59	2.98	0.12	2.95	0.08	-9.56	-0.32	-10.70	17.79	4.02	2.64	0.22633
85	presto/tpcds/q86	0.05	0.00	0.05	0.00	0.05	0.00	-9.21	-0.00	-5.94	3.82	6.32	3.37	0.00845
32	presto/tpcds/q33	0.05	0.00	0.04	0.00	0.05	0.00	-8.01	-0.00	-2.59	1.41	3.39	1.25	0.00019
60	presto/tpcds/q61	0.06	0.01	0.06	0.01	0.05	0.00	-7.97	-0.01	-14.40	17.41	9.38	3.34	0.33887
50	presto/tpcds/q51	0.19	0.02	0.17	0.02	0.18	0.02	-7.91	-0.01	-4.17	12.12	11.91	11.71	0.26356
49	presto/tpcds/q50	0.63	0.22	0.58	0.08	0.54	0.01	-7.32	-0.05	-14.59	35.04	13.98	1.79	0.64148
80	presto/tpcds/q81	0.10	0.02	0.09	0.00	0.09	0.00	-7.20	-0.01	-13.21	18.28	2.30	3.13	0.36065
76	presto/tpcds/q77	0.03	0.00	0.03	0.00	0.03	0.00	-6.92	-0.00	3.52	9.34	5.94	6.11	0.14930
5	presto/tpcds/q06	0.01	0.00	0.01	0.00	0.01	0.00	-6.70	-0.00	2.80	14.43	8.67	11.83	0.34455
36	presto/tpcds/q37	0.24	0.01	0.23	0.01	0.28	0.12	-6.60	-0.02	14.09	3.29	3.40	44.14	0.00542
13	presto/tpcds/q14	1.84	0.25	1.72	0.12	1.78	0.09	-6.46	-0.12	-3.00	13.49	7.00	4.91	0.31616
93	presto/tpcds/q94	0.22	0.01	0.20	0.00	0.22	0.01	-6.40	-0.01	0.28	3.30	1.46	3.31	0.00136
4	presto/tpcds/q05	0.55	0.04	0.52	0.03	0.51	0.04	-5.65	-0.03	-6.86	8.03	6.19	8.01	0.19317
89	presto/tpcds/q90	0.53	0.01	0.50	0.01	0.52	0.02	-5.55	-0.03	-1.89	2.30	1.86	4.27	0.00086
57	presto/tpcds/q58	0.01	0.00	0.01	0.00	0.01	0.00	-5.24	-0.00	-0.85	6.48	2.30	4.95	0.09021
91	presto/tpcds/q92	0.02	0.00	0.02	0.00	0.03	0.03	-4.22	-0.00	68.06	1.42	7.80	98.93	0.20406
92	presto/tpcds/q93	0.97	0.08	0.93	0.05	0.97	0.07	-4.10	-0.04	0.14	8.32	5.41	7.08	0.32943
3	presto/tpcds/q04	0.92	0.02	0.88	0.08	0.92	0.08	-3.64	-0.03	0.07	1.81	9.47	8.47	0.36065
48	presto/tpcds/q49	0.70	0.06	0.67	0.01	0.67	0.01	-3.59	-0.03	-3.97	8.84	1.81	1.87	0.35152
77	presto/tpcds/q78	0.89	0.07	0.86	0.06	0.91	0.05	-3.21	-0.03	2.95	8.40	6.50	5.68	0.47153
74	presto/tpcds/q75	1.52	0.05	1.48	0.04	1.63	0.30	-3.02	-0.05	7.07	3.58	2.66	18.59	0.12494
96	presto/tpcds/q97	0.14	0.01	0.14	0.01	0.14	0.01	-2.59	-0.00	0.70	9.05	8.27	7.97	0.61195
42	presto/tpcds/q43	0.09	0.01	0.09	0.01	0.10	0.00	-2.57	-0.00	3.64	9.60	6.74	4.12	0.59980
56	presto/tpcds/q57	0.30	0.04	0.29	0.02	0.29	0.01	-2.36	-0.01	-3.36	12.73	7.37	4.32	0.70112
29	presto/tpcds/q30	0.07	0.00	0.07	0.00	0.06	0.00	-2.06	-0.00	-12.04	4.91	5.53	4.54	0.50484
40	presto/tpcds/q41	0.01	0.00	0.01	0.00	0.01	0.00	-1.88	-0.00	-5.06	2.05	2.32	1.33	0.16399
51	presto/tpcds/q52	0.02	0.00	0.02	0.00	0.02	0.00	-1.34	-0.00	15.50	12.88	9.91	18.44	0.84327

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
63	presto/tpcds/q64	2.63	0.33	2.60	0.56	2.57	0.08	-1.24	-0.03	-2.23	12.55	21.67	2.98	0.90498
62	presto/tpcds/q63	0.17	0.00	0.17	0.01	0.17	0.01	-1.01	-0.00	2.31	2.09	3.77	6.64	0.57707
54	presto/tpcds/q55	0.02	0.00	0.02	0.00	0.02	0.00	-0.87	-0.00	7.59	19.42	10.81	21.95	0.92535
23	presto/tpcds/q24	2.19	0.10	2.18	0.15	2.13	0.11	-0.86	-0.02	-2.97	4.68	6.74	5.24	0.80226
47	presto/tpcds/q48	0.20	0.02	0.20	0.03	0.21	0.02	-0.59	-0.00	0.49	8.86	13.97	11.46	0.93212
88	presto/tpcds/q89	0.12	0.01	0.12	0.01	0.13	0.01	-0.17	-0.00	6.94	5.98	5.03	9.49	0.95968
46	presto/tpcds/q47	0.45	0.02	0.45	0.01	0.45	0.02	0.38	0.00	-0.86	3.85	1.69	4.02	0.83121
7	presto/tpcds/q08	0.02	0.00	0.02	0.00	0.02	0.00	0.75	0.00	1.80	3.17	2.06	7.81	0.63711
39	presto/tpcds/q40	0.28	0.05	0.28	0.02	0.27	0.05	0.78	0.00	-2.87	15.98	6.11	16.95	0.91335
73	presto/tpcds/q74	0.25	0.01	0.25	0.05	0.26	0.02	0.99	0.00	1.51	5.77	18.98	9.42	0.90582
18	presto/tpcds/q19	0.02	0.00	0.02	0.00	0.02	0.00	1.09	0.00	-4.06	3.07	1.60	0.98	0.46145
12	presto/tpcds/q13	0.35	0.01	0.35	0.02	0.35	0.01	1.39	0.00	2.69	1.85	6.55	2.97	0.63213
15	presto/tpcds/q16	0.26	0.02	0.26	0.01	0.32	0.08	2.01	0.01	23.68	6.81	3.58	23.86	0.53854
26	presto/tpcds/q27	0.28	0.02	0.29	0.01	0.29	0.01	2.02	0.01	2.24	5.41	4.68	2.63	0.50783
22	presto/tpcds/q23	1.48	0.16	1.51	0.17	1.45	0.07	2.04	0.03	-1.94	10.94	11.17	5.01	0.75852
17	presto/tpcds/q18	0.21	0.01	0.21	0.00	0.21	0.01	2.12	0.00	3.66	2.51	1.88	5.28	0.13132
53	presto/tpcds/q54	0.43	0.01	0.44	0.01	0.45	0.08	2.27	0.01	5.03	3.22	2.42	17.67	0.20023
98	presto/tpcds/q99	0.09	0.00	0.09	0.00	0.09	0.00	2.42	0.00	-1.61	2.13	5.13	3.96	0.31992
55	presto/tpcds/q56	0.04	0.00	0.05	0.00	0.05	0.00	2.54	0.00	8.78	5.55	3.72	4.22	0.37794
0	presto/tpcds/q01	0.09	0.01	0.09	0.01	0.09	0.00	3.51	0.00	7.38	7.15	8.98	1.96	0.47989
44	presto/tpcds/q45	0.02	0.00	0.02	0.00	0.02	0.00	4.11	0.00	-2.68	11.61	9.13	12.30	0.51697
78	presto/tpcds/q79	0.06	0.01	0.06	0.01	0.06	0.00	4.47	0.00	8.18	9.68	13.52	6.10	0.53698
8	presto/tpcds/q09	4.52	0.09	4.72	0.48	4.66	0.18	4.52	0.20	3.05	1.94	10.19	3.93	0.33088
9	presto/tpcds/q10	0.03	0.00	0.03	0.00	0.02	0.00	4.57	0.00	-0.71	3.17	8.58	4.69	0.26712
94	presto/tpcds/q95	0.53	0.02	0.56	0.13	0.57	0.09	4.68	0.02	7.75	4.06	23.16	15.89	0.65110
28	presto/tpcds/q29	0.19	0.01	0.20	0.01	0.20	0.00	4.92	0.01	2.15	4.96	3.92	1.68	0.09085
75	presto/tpcds/q76	1.57	0.07	1.65	0.11	1.57	0.01	5.01	0.08	0.01	4.48	6.47	0.70	0.16288
25	presto/tpcds/q26	0.17	0.01	0.18	0.01	0.17	0.01	5.04	0.01	-1.36	8.85	7.65	3.95	0.32563
38	presto/tpcds/q39	0.01	0.00	0.01	0.00	0.01	0.00	5.29	0.00	-3.91	2.03	7.45	7.04	0.14081
97	presto/tpcds/q98	0.01	0.00	0.01	0.00	0.01	0.00	5.37	0.00	2.42	2.06	1.56	1.87	0.00054
6	presto/tpcds/q07	0.32	0.01	0.34	0.01	0.34	0.02	5.54	0.02	5.26	2.54	2.74	5.51	0.00552
1	presto/tpcds/q02	0.51	0.01	0.53	0.03	0.54	0.03	5.70	0.03	6.49	2.29	5.27	5.48	0.04275

	query	baseline mean	baseline std.dev	parquet small chunks mean	parquet small chunks std.dev	parquet 128MB buffer size mean	parquet 128MB buffer size std.dev	% change	absolute change	% change base -> parquet 128MB buffer size	baseline std.dev %	parquet small chunks std.dev %	parquet 128MB buffer size std.dev %	p-value
27	presto/tpcds/q28	4.00	0.10	4.24	0.59	3.86	0.39	6.00	0.24	-3.60	2.57	14.00	10.09	0.35240
65	presto/tpcds/q66	0.19	0.01	0.21	0.01	0.20	0.01	6.10	0.01	1.29	3.98	7.14	2.88	0.11111
41	presto/tpcds/q42	0.02	0.00	0.02	0.00	0.02	0.00	6.23	0.00	-11.46	10.33	15.25	12.62	0.44517
35	presto/tpcds/q36	0.21	0.02	0.23	0.03	0.22	0.03	6.28	0.01	2.06	10.72	11.40	12.71	0.36406
20	presto/tpcds/q21	0.01	0.00	0.01	0.00	0.01	0.00	6.50	0.00	20.79	2.07	1.76	21.24	0.00020
11	presto/tpcds/q12	0.01	0.00	0.01	0.00	0.01	0.00	6.61	0.00	4.97	4.37	1.90	2.78	0.00722
45	presto/tpcds/q46	0.14	0.02	0.15	0.02	0.16	0.01	7.19	0.01	10.29	11.60	11.79	8.28	0.32898
43	presto/tpcds/q44	2.65	0.03	2.85	0.04	2.73	0.03	7.40	0.20	2.80	1.24	1.57	1.27	0.00001
14	presto/tpcds/q15	0.02	0.00	0.02	0.00	0.01	0.00	8.61	0.00	-6.97	17.61	18.80	12.37	0.45244
90	presto/tpcds/q91	0.02	0.00	0.02	0.00	0.02	0.00	9.16	0.00	6.64	1.96	4.61	1.15	0.00197
24	presto/tpcds/q25	0.06	0.00	0.07	0.00	0.07	0.00	10.00	0.01	4.22	0.97	3.56	4.60	0.00012
19	presto/tpcds/q20	0.01	0.00	0.01	0.00	0.01	0.00	10.67	0.00	0.46	5.75	7.44	2.35	0.02625
95	presto/tpcds/q96	0.36	0.01	0.40	0.06	0.39	0.02	10.89	0.04	9.31	2.63	14.69	5.28	0.13685
31	presto/tpcds/q32	0.03	0.00	0.03	0.00	0.04	0.03	12.55	0.00	48.30	9.43	10.96	73.07	0.07588
33	presto/tpcds/q34	0.06	0.00	0.06	0.01	0.06	0.00	13.54	0.01	3.56	1.78	9.11	2.60	0.01015
66	presto/tpcds/q67	0.17	0.03	0.20	0.02	0.21	0.02	13.61	0.02	19.43	15.76	8.35	7.32	0.09990
67	presto/tpcds/q68	0.05	0.00	0.05	0.01	0.04	0.00	16.23	0.01	-8.50	7.64	20.96	11.70	0.15047
79	presto/tpcds/q80	0.74	0.03	0.90	0.46	0.73	0.02	21.93	0.16	-1.26	3.83	50.71	2.49	0.40624
37	presto/tpcds/q38	0.07	0.00	0.09	0.06	0.09	0.04	24.36	0.02	15.80	6.48	59.88	42.43	0.44321
84	presto/tpcds/q85	0.40	0.01	0.50	0.15	0.41	0.01	24.71	0.10	2.33	2.56	29.57	2.18	0.13256
52	presto/tpcds/q53	0.17	0.00	0.22	0.07	0.16	0.01	26.45	0.05	-4.24	2.50	31.80	7.11	0.13886
59	presto/tpcds/q60	0.05	0.00	0.06	0.01	0.04	0.00	29.17	0.01	-15.28	4.54	11.77	3.05	0.00114
70	presto/tpcds/q71	0.04	0.00	0.05	0.03	0.03	0.00	29.53	0.01	-9.86	6.30	66.23	5.74	0.42009
86	presto/tpcds/q87	0.07	0.00	0.10	0.07	0.07	0.00	30.38	0.02	0.41	5.11	68.86	5.95	0.42725
61	presto/tpcds/q62	0.07	0.00	0.11	0.05	0.08	0.00	48.12	0.04	5.50	1.31	49.15	1.48	0.13652

```

count    99
mean      0
std      13
min     -44
25%      -7
50%       1
75%       6
max       48
Name: % change, dtype: float64
count    99
mean     -0
std      14

```

```
min      -46
25%     -5
50%      0
75%      4
max      68
```

```
Name: % change base -> parquet 128MB buffer size, dtype: float64
```