Show Code

Overall Times

	label	TPCH wall time	TPC-DS wall time	TPCH CPU time	TPC-DS CPU time	TPCH Network GB	TPC-DS Network GB	TPCH peak mem	TPC-DS peak mem	TPCH wall time % change	TPC-DS wall time % change	TPCH CPU time % change	TPC-DS CPU time % change	TPCH Network GB % change	TPC-DS Network GB % change	TPCH peak mem % change	TPC-DS peak mem % change
0	baseline part	812	1,111	108,909	128,022	2,645	2,017	2,145,563,371	1,254,241,988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	adaptive PA part 0.8	780	1,092	101,696	126,127	2,652	2,023	2,135,735,086	1,231,809,112	-3.92	-1.72	-6.62	-1.48	0.23	0.32	-0.46	-1.79
2	adaptive PA part 0.5	766	1,068	102,584	125,785	2,652	2,022	2,125,912,280	1,236,076,905	-5.63	-3.87	-5.81	-1.75	0.24	0.26	-0.92	-1.45
3	adaptive PA part 0.9	761	1,060	101,408	124,418	2,652	2,013	2,127,978,500	1,229,401,178	-6.25	-4.61	-6.89	-2.82	0.23	-0.16	-0.82	-1.98
4	adaptive PA part 0.95	763	1,065	101,567	125,533	2,652	2,015	2,124,981,024	1,230,132,941	-6.09	-4.19	-6.74	-1.94	0.23	-0.06	-0.96	-1.92

FAILED QUERIES

baseline part

benchmark	query	mean_duration	std_dev

adaptive PA part 0.8

benchmark	query	mean_duration	std_dev

adaptive PA part 0.5

benchmark	query	mean_duration	std_dev

adaptive PA part 0.9

benchmark	query	mean_duration	std_dev

adaptive PA part 0.95

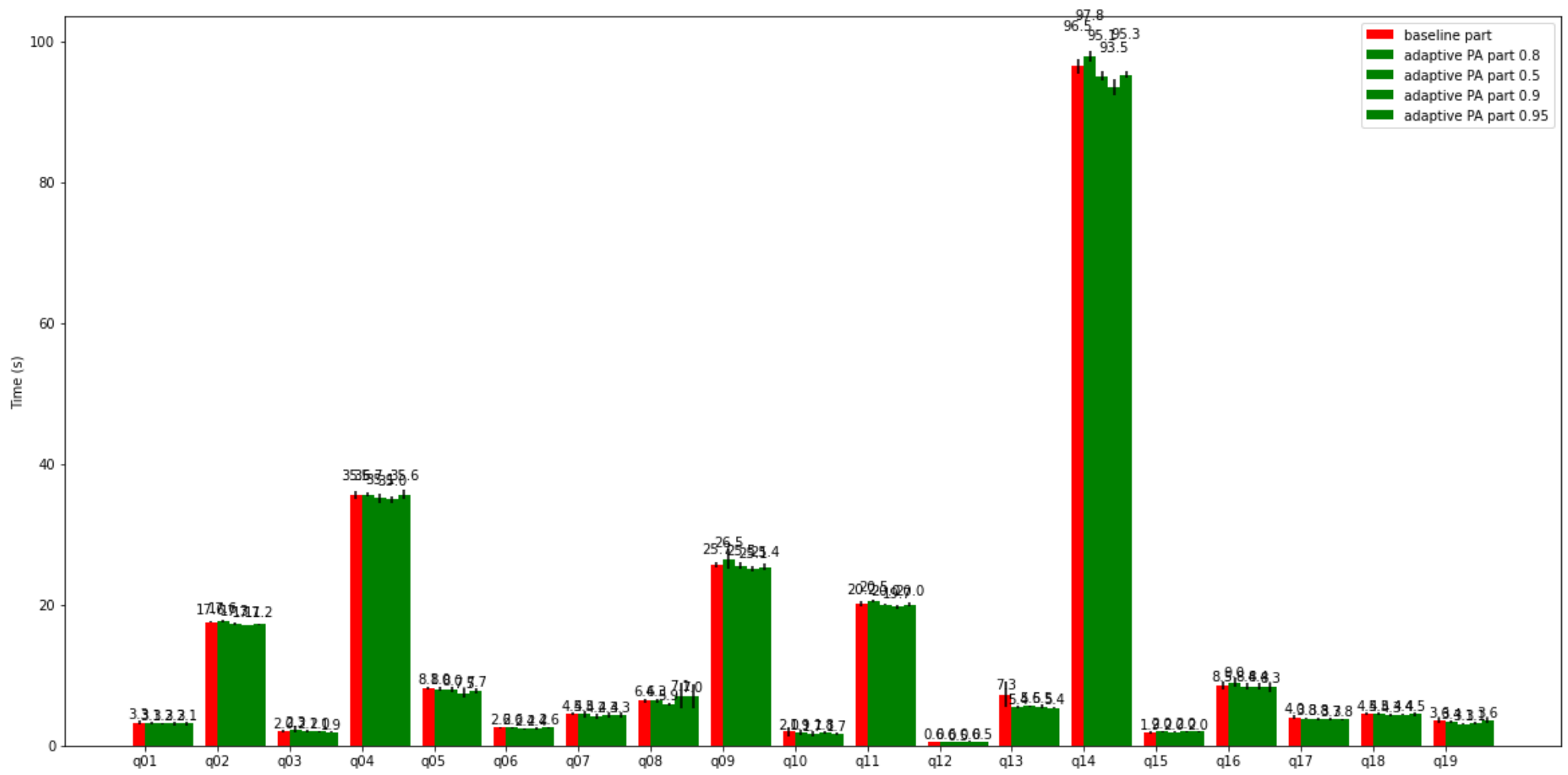| benchmark	query	mean_duration	std_dev

TPC-H Comparison (DURATION)

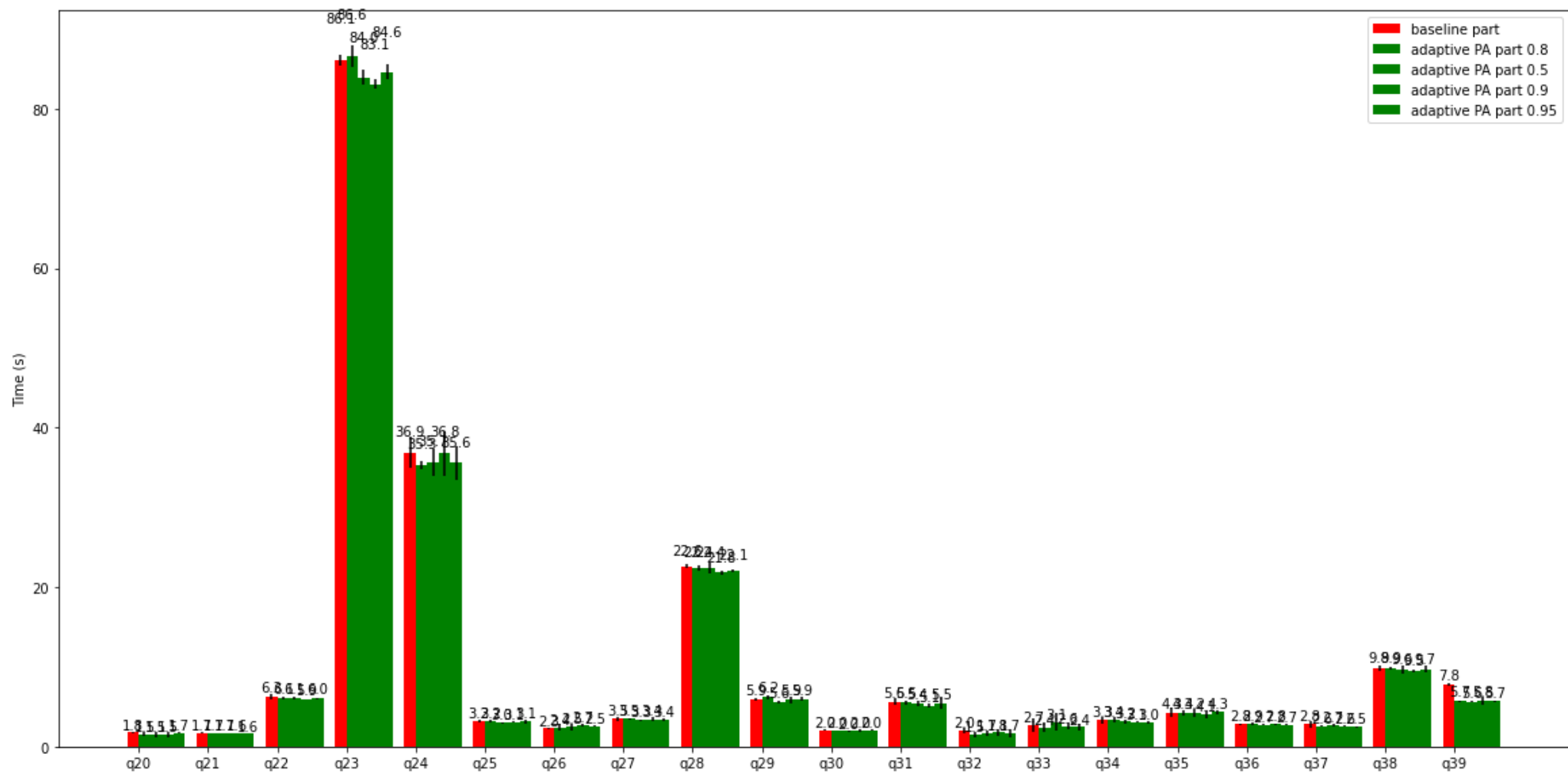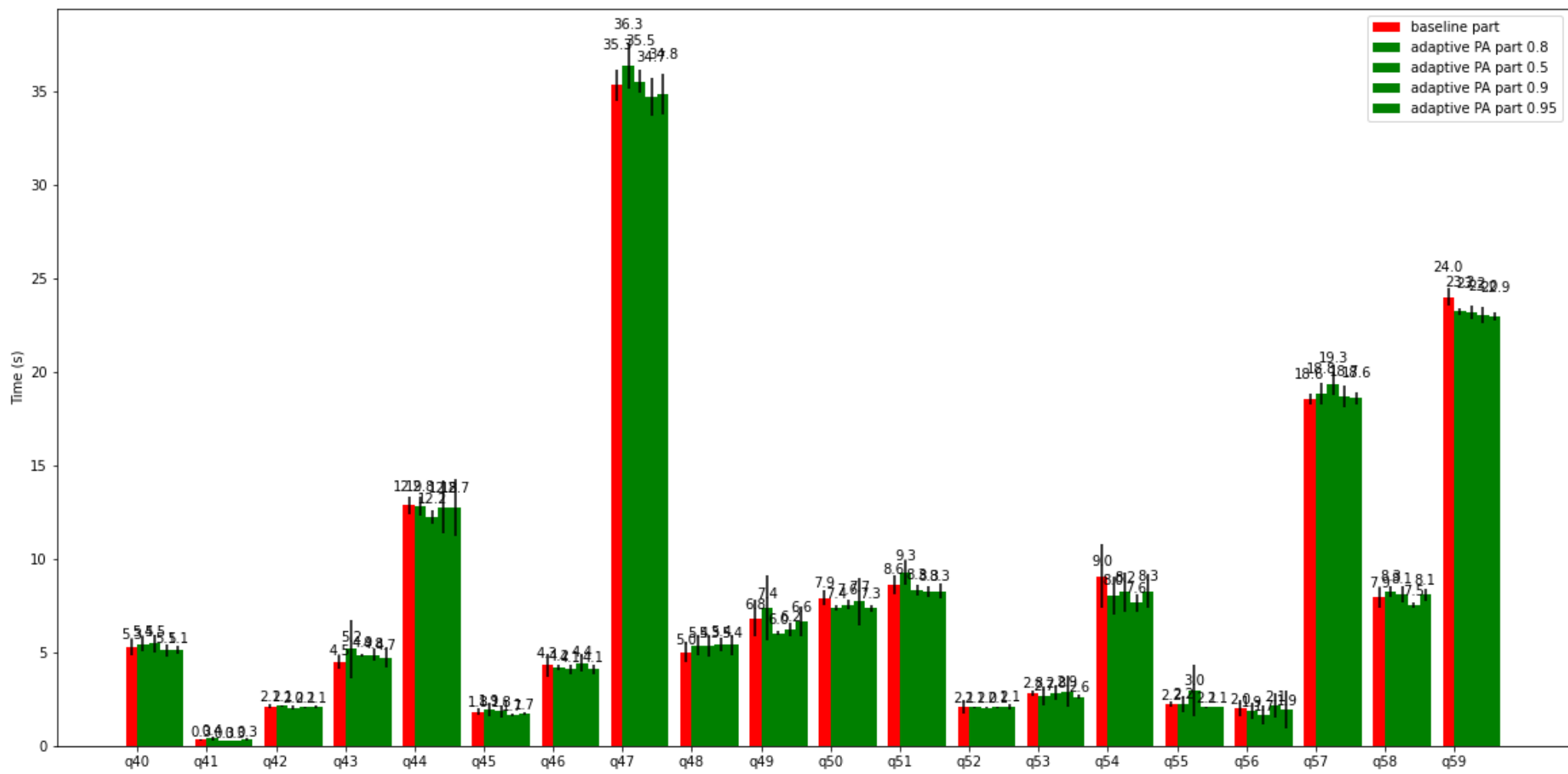| query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
3 presto/tpch: q04	26.74	2.07	19.94	0.40	20.34	0.83	19.75	1.28	19.44	0.48	-25.41	-23.92	-26.13	-27.29	7.76	2.02
19 presto/tpch: q20	17.22	0.16	13.92	0.08	13.88	0.21	13.58	0.17	13.80	0.44	-19.17	-19.35	-21.12	-19.85	0.91	0.56
21 presto/tpch: q22	8.07	0.44	6.87	0.22	6.31	0.31	6.23	0.41	6.36	0.23	-14.87	-21.78	-22.79	-21.21	5.48	3.27
14 presto/tpch: q15	5.29	0.14	4.52	0.48	4.68	0.94	4.31	0.16	4.13	0.11	-14.50	-11.43	-18.44	-21.80	2.66	10.55

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
16	presto/tpch: q17	75.64	0.71	66.79	0.73	65.81	1.03	65.63	0.73	64.84	0.34	-11.70	-13.00	-13.24	-14.29	0.93	1.09
9	presto/tpch: q10	24.69	0.48	22.68	0.82	21.49	0.36	21.96	0.61	22.33	0.68	-8.17	-12.97	-11.06	-9.59	1.95	3.62
17	presto/tpch: q18	180.32	1.62	171.91	1.15	169.75	1.54	168.40	1.75	170.40	2.03	-4.66	-5.86	-6.61	-5.50	0.90	0.67
12	presto/tpch: q13	21.64	0.32	21.29	0.24	21.33	0.44	21.08	0.25	21.24	0.19	-1.60	-1.43	-2.58	-1.84	1.48	1.13
8	presto/tpch: q09	106.53	2.83	104.83	1.05	102.73	2.46	103.02	3.29	104.20	2.50	-1.59	-3.57	-3.30	-2.18	2.65	1.00
11	presto/tpch: q12	11.77	0.50	11.59	0.51	11.25	0.25	11.15	0.39	10.92	0.30	-1.55	-4.43	-5.24	-7.27	4.27	4.37
2	presto/tpch: q03	23.17	0.35	22.86	0.32	22.54	0.32	22.55	0.60	22.47	0.26	-1.33	-2.70	-2.67	-3.02	1.53	1.41
4	presto/tpch: q05	36.24	0.65	35.84	0.68	36.18	1.02	35.16	0.53	35.08	0.46	-1.10	-0.17	-3.00	-3.21	1.80	1.90
15	presto/tpch: q16	6.17	0.05	6.15	0.65	5.85	0.19	5.68	0.07	5.76	0.09	-0.19	-5.09	-7.94	-6.53	0.74	10.62
20	presto/tpch: q21	174.33	1.16	174.30	1.70	169.21	1.35	169.14	1.65	167.19	1.00	-0.02	-2.94	-2.98	-4.10	0.67	0.98
7	presto/tpch: q08	21.95	0.19	22.02	0.37	21.65	0.21	21.88	0.60	21.55	0.46	0.32	-1.39	-0.33	-1.85	0.87	1.66
0	presto/tpch: q01	18.71	0.13	18.81	0.62	18.65	0.10	18.49	0.13	18.81	0.26	0.49	-0.35	-1.22	0.54	0.68	3.28
18	presto/tpch: q19	14.97	0.27	15.23	0.20	15.75	0.69	15.34	1.37	14.79	0.12	1.74	5.24	2.49	-1.17	1.79	1.32
6	presto/tpch: q07	15.36	0.36	15.71	0.62	14.73	0.29	14.80	0.28	15.29	0.29	2.27	-4.07	-3.62	-0.46	2.37	3.92
1	presto/tpch: q02	11.33	0.09	11.85	0.36	11.71	0.81	11.06	0.21	11.36	0.16	4.56	3.39	-2.38	0.29	0.81	3.04
10	presto/tpch: q11	7.79	0.28	8.38	0.22	8.12	0.21	8.01	0.46	8.23	0.07	7.65	4.32	2.84	5.69	3.61	2.58
5	presto/tpch: q06	1.40	0.07	1.54	0.16	1.61	0.24	1.41	0.08	1.59	0.24	10.24	15.01	1.07	14.01	5.18	10.35
13	presto/tpch: q14	2.89	0.09	3.35	0.27	2.87	0.09	2.85	0.14	2.92	0.13	15.88	-0.65	-1.38	1.24	3.11	8.11

```
count    22
mean     -3
std      10
min     -25
25%      -7
50%      -1
75%       1
max      16
Name: % change, dtype: float64
count    22
mean     -5
std       9
min     -24
25%     -10
50%      -3
75%      -0
max      15
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    22
mean     -7
std       8
min     -26
25%     -10
50%      -3
75%      -2
max       3
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    22
mean     -6
std      10
min     -27
25%      -9
50%      -3
75%      -1
max      14
Name: % change base -> adaptive PA part 0.95, dtype: float64
```
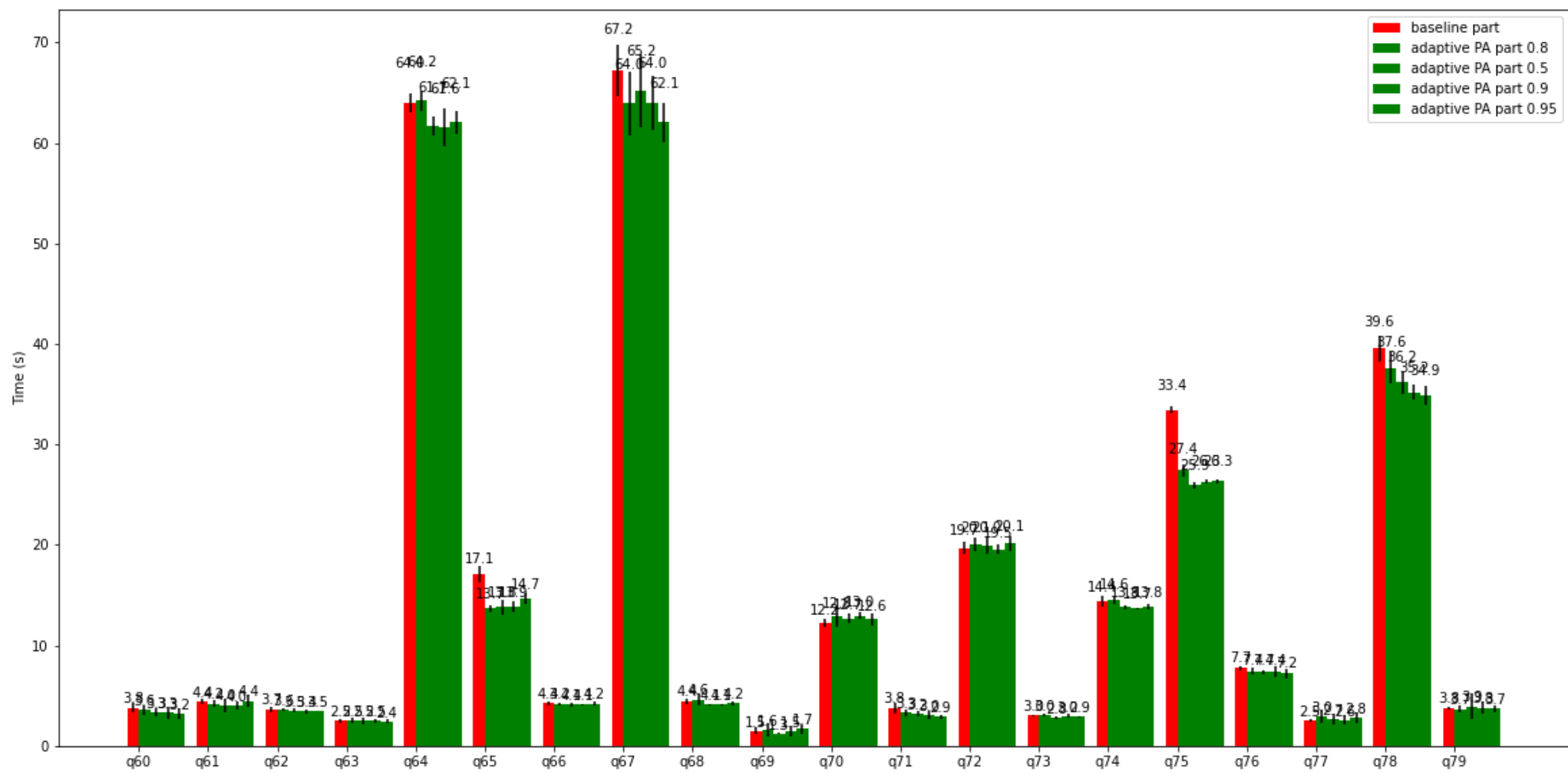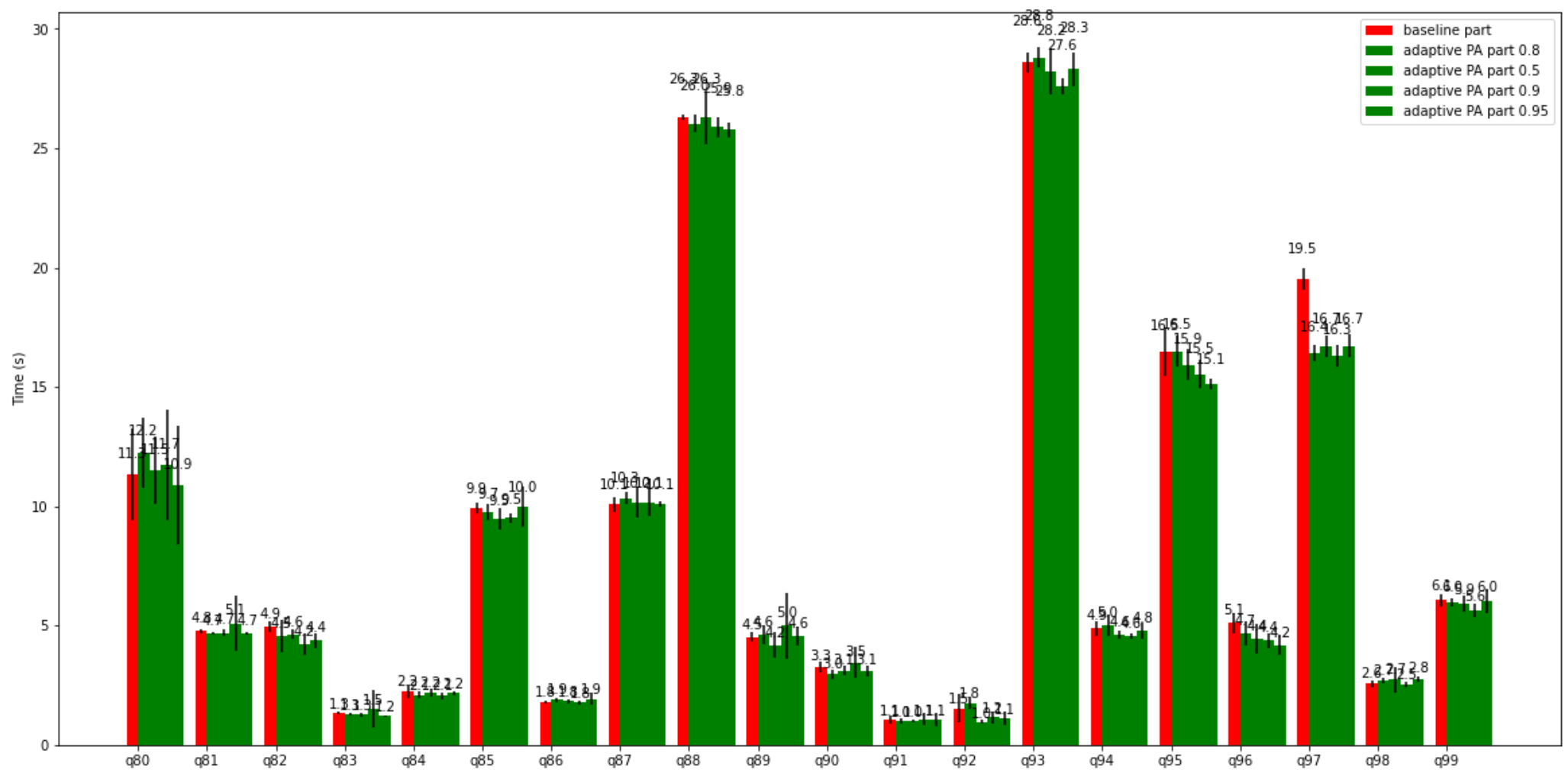
TPC-DS Comparison (DURATION)

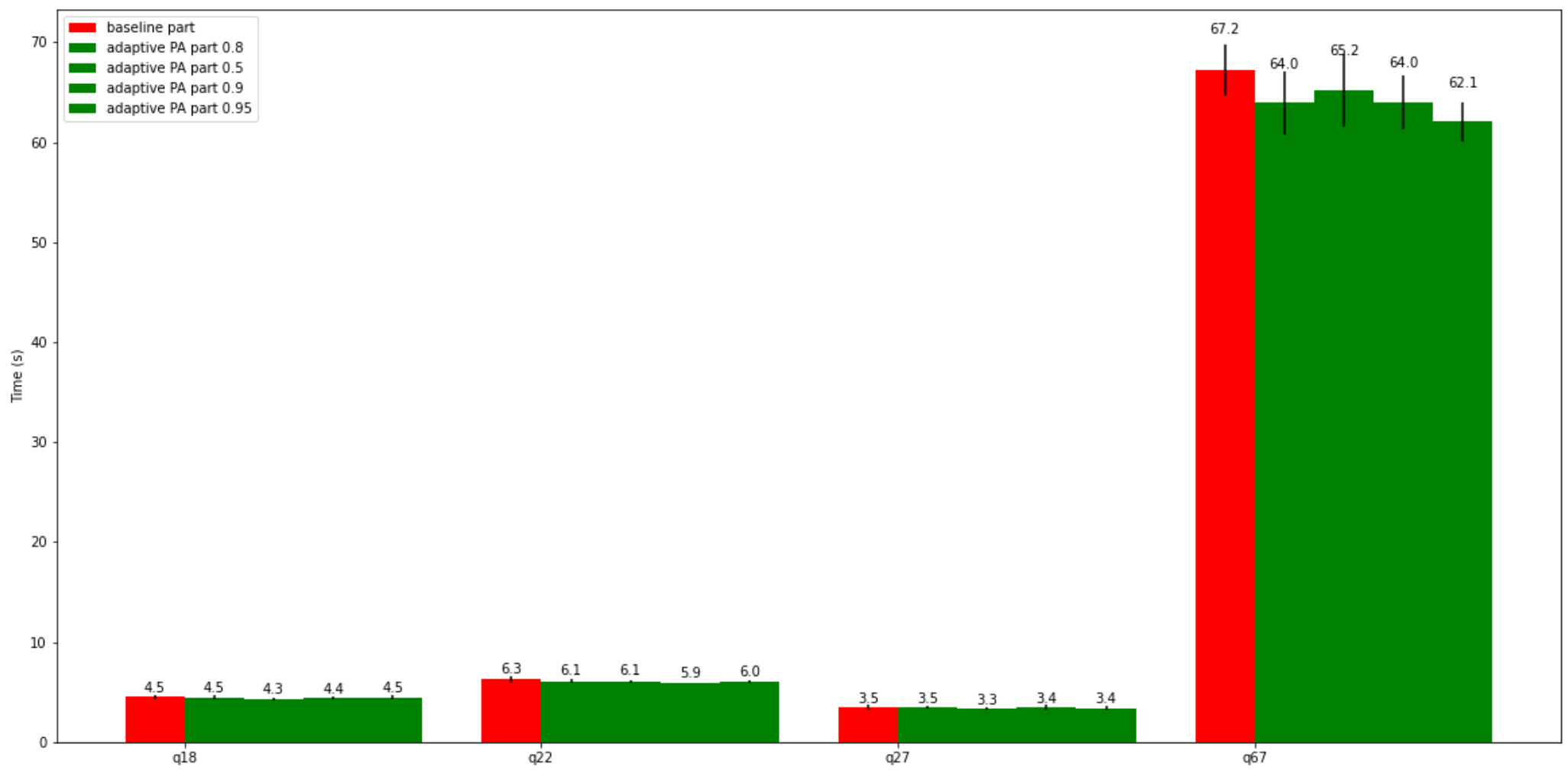|	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
38	presto/tpcds: q39	7.75	0.15	5.70	0.09	5.65	0.08	5.79	0.52	5.67	0.09	-26.43	-27.18	-25.36	-26.90	1.95	1.52
12	presto/tpcds: q13	7.29	1.72	5.41	0.20	5.59	0.08	5.54	0.33	5.39	0.09	-25.79	-23.34	-24.08	-26.13	23.54	3.62
31	presto/tpcds: q32	1.99	0.29	1.51	0.31	1.66	0.36	1.76	0.40	1.67	0.58	-23.97	-16.35	-11.38	-16.10	14.64	20.47
64	presto/tpcds: q65	17.07	0.80	13.67	0.34	13.79	0.79	13.85	0.52	14.67	0.49	-19.93	-19.20	-18.84	-14.04	4.68	2.50

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
74	presto/tpcds:q75	33.45	0.33	27.41	0.63	25.94	0.31	26.27	0.21	26.33	0.17	-18.04	-22.44	-21.44	-21.27	0.98	2.29
96	presto/tpcds:q97	19.53	0.47	16.40	0.34	16.71	0.44	16.30	0.46	16.72	0.47	-16.03	-14.41	-16.52	-14.38	2.39	2.07
19	presto/tpcds:q20	1.78	0.14	1.54	0.21	1.49	0.39	1.51	0.38	1.68	0.07	-13.07	-16.21	-15.19	-5.21	8.03	13.50
70	presto/tpcds:q71	3.77	0.56	3.29	0.36	3.20	0.29	3.04	0.40	2.93	0.20	-12.87	-15.11	-19.49	-22.38	14.76	10.98
53	presto/tpcds:q54	9.05	1.71	8.03	1.01	8.22	1.03	7.63	0.45	8.28	0.94	-11.23	-9.18	-15.66	-8.51	18.85	12.58
32	presto/tpcds:q33	2.73	0.87	2.43	0.62	3.09	1.06	2.56	0.45	2.44	0.49	-11.07	13.06	-6.25	-10.64	31.95	25.47
89	presto/tpcds:q90	3.26	0.21	2.95	0.19	3.11	0.20	3.46	0.65	3.09	0.22	-9.49	-4.85	5.99	-5.47	6.56	6.45
95	presto/tpcds:q96	5.10	0.42	4.67	0.52	4.43	0.62	4.38	0.31	4.19	0.42	-8.52	-13.13	-14.05	-17.82	8.30	11.16
36	presto/tpcds:q37	2.83	0.44	2.60	0.12	2.67	0.18	2.57	0.08	2.50	0.07	-8.31	-5.80	-9.38	-11.96	15.59	4.79
81	presto/tpcds:q82	4.95	0.23	4.55	0.68	4.64	0.18	4.25	0.45	4.38	0.30	-8.02	-6.15	-14.16	-11.44	4.69	14.91
55	presto/tpcds:q56	2.00	0.44	1.86	0.45	1.65	0.50	2.15	0.63	1.93	1.01	-6.75	-17.17	7.69	-3.15	22.18	24.17
59	presto/tpcds:q60	3.81	0.51	3.55	0.48	3.33	0.45	3.28	0.60	3.20	0.59	-6.73	-12.60	-14.01	-16.12	13.29	13.53
49	presto/tpcds:q50	7.90	0.39	7.37	0.15	7.55	0.23	7.71	1.24	7.34	0.20	-6.69	-4.38	-2.41	-7.05	4.96	2.02
83	presto/tpcds:q84	2.24	0.29	2.10	0.16	2.19	0.15	2.07	0.13	2.16	0.08	-6.41	-2.25	-7.63	-3.49	12.72	7.57
90	presto/tpcds:q91	1.08	0.17	1.01	0.10	1.01	0.07	1.09	0.28	1.08	0.28	-5.67	-6.05	1.07	0.29	15.37	9.84
52	presto/tpcds:q53	2.83	0.13	2.67	0.52	2.84	0.40	2.91	0.83	2.62	0.10	-5.46	0.22	2.87	-7.53	4.73	19.42
18	presto/tpcds:q19	3.61	0.38	3.41	0.25	3.10	0.10	3.12	0.18	3.59	0.33	-5.42	-14.20	-13.65	-0.48	10.66	7.22
60	presto/tpcds:q61	4.38	0.27	4.17	0.33	4.04	0.63	3.98	0.40	4.43	0.61	-4.92	-7.77	-9.31	1.16	6.09	8.02

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
77	presto/tpcds: q78	39.56	1.28	37.63	1.60	36.21	1.16	35.21	0.70	34.93	0.93	-4.89	-8.48	-11.01	-11.71	3.24	4.25
0	presto/tpcds: q01	3.28	0.23	3.12	0.21	3.17	0.11	3.17	0.27	3.13	0.22	-4.87	-3.42	-3.29	-4.70	7.12	6.64
66	presto/tpcds: q67	67.19	2.59	63.96	3.18	65.23	3.64	63.98	2.72	62.07	1.92	-4.81	-2.91	-4.78	-7.62	3.85	4.97
16	presto/tpcds: q17	3.99	0.26	3.82	0.09	3.82	0.22	3.74	0.19	3.76	0.09	-4.32	-4.21	-6.35	-5.87	6.41	2.35
23	presto/tpcds: q24	36.88	1.98	35.30	0.52	35.66	1.66	36.80	2.80	35.58	2.15	-4.26	-3.29	-0.20	-3.53	5.37	1.49
75	presto/tpcds: q76	7.73	0.26	7.43	0.37	7.37	0.21	7.41	0.52	7.20	0.50	-3.88	-4.58	-4.10	-6.86	3.36	4.96
58	presto/tpcds: q59	23.98	0.48	23.21	0.18	23.18	0.37	23.01	0.45	22.95	0.21	-3.22	-3.37	-4.05	-4.33	2.02	0.77
61	presto/tpcds: q62	3.67	0.27	3.56	0.13	3.50	0.19	3.42	0.16	3.47	0.06	-2.99	-4.70	-6.85	-5.51	7.32	3.66
45	presto/tpcds: q46	4.31	0.61	4.18	0.14	4.11	0.25	4.42	0.47	4.10	0.27	-2.92	-4.51	2.63	-4.74	14.24	3.25
9	presto/tpcds: q10	1.98	0.69	1.93	0.35	1.70	0.35	1.83	0.23	1.70	0.17	-2.79	-14.33	-7.78	-14.37	34.58	18.31
82	presto/tpcds: q83	1.34	0.06	1.30	0.05	1.26	0.10	1.51	0.79	1.21	0.03	-2.74	-5.89	12.80	-9.95	4.38	3.50
78	presto/tpcds: q79	3.77	0.13	3.68	0.33	3.93	1.24	3.77	0.61	3.69	0.34	-2.57	4.19	0.00	-2.23	3.39	8.91
21	presto/tpcds: q22	6.26	0.31	6.10	0.18	6.08	0.11	5.90	0.04	6.03	0.11	-2.57	-2.98	-5.81	-3.79	5.00	2.91
24	presto/tpcds: q25	3.25	0.15	3.17	0.12	3.01	0.08	3.06	0.10	3.14	0.26	-2.53	-7.24	-5.66	-3.22	4.52	3.83
20	presto/tpcds: q21	1.75	0.02	1.70	0.02	1.66	0.02	1.64	0.05	1.63	0.01	-2.48	-5.00	-6.10	-6.71	1.36	0.89
80	presto/tpcds: q81	4.77	0.08	4.67	0.08	4.70	0.14	5.07	1.16	4.68	0.03	-2.11	-1.54	6.31	-2.00	1.58	1.64
84	presto/tpcds: q85	9.93	0.25	9.74	0.34	9.47	0.46	9.52	0.21	9.99	0.86	-1.97	-4.63	-4.16	0.63	2.48	3.49
30	presto/tpcds: q31	5.64	0.43	5.53	0.26	5.41	0.36	5.12	0.22	5.47	0.70	-1.92	-4.12	-9.33	-2.98	7.62	4.70

query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
65 presto/tpcds: q66	4.26	0.18	4.18	0.14	4.10	0.17	4.11	0.10	4.22	0.23	-1.86	-3.75	-3.52	-0.97	4.13	3.24
29 presto/tpcds: q30	2.04	0.06	2.01	0.08	1.96	0.08	2.03	0.16	2.02	0.08	-1.53	-3.93	-0.69	-1.09	2.88	3.75
4 presto/tpcds: q05	8.13	0.17	8.01	0.33	7.97	0.35	7.48	0.69	7.74	0.35	-1.52	-2.03	-7.98	-4.83	2.05	4.12
98 presto/tpcds: q99	6.08	0.25	6.00	0.17	5.92	0.36	5.63	0.29	6.02	0.50	-1.40	-2.75	-7.44	-1.03	4.13	2.88
87 presto/tpcds: q88	26.31	0.13	26.04	0.38	26.29	1.09	25.90	0.42	25.78	0.31	-1.02	-0.07	-1.57	-2.00	0.49	1.45
27 presto/tpcds: q28	22.63	0.20	22.44	0.33	22.38	0.66	21.82	0.28	22.05	0.23	-0.86	-1.11	-3.59	-2.57	0.89	1.49
7 presto/tpcds: q08	6.38	0.26	6.34	0.25	5.86	0.12	7.08	1.80	6.96	1.71	-0.60	-8.23	10.92	9.08	4.10	3.95
34 presto/tpcds: q35	4.28	0.63	4.26	0.31	4.23	0.48	4.06	0.46	4.34	0.21	-0.43	-0.98	-5.01	1.43	14.84	7.29
17 presto/tpcds: q18	4.50	0.20	4.49	0.24	4.33	0.14	4.38	0.11	4.48	0.26	-0.32	-3.82	-2.63	-0.53	4.47	5.34
43 presto/tpcds: q44	12.85	0.45	12.82	0.53	12.22	0.35	12.77	1.44	12.74	1.55	-0.27	-4.89	-0.63	-0.91	3.53	4.13
26 presto/tpcds: q27	3.49	0.23	3.49	0.13	3.33	0.10	3.43	0.26	3.41	0.20	0.03	-4.60	-1.52	-2.26	6.73	3.65
94 presto/tpcds: q95	16.47	1.02	16.49	0.64	15.93	0.65	15.53	0.60	15.13	0.23	0.13	-3.22	-5.70	-8.13	6.17	3.90
41 presto/tpcds: q42	2.12	0.08	2.12	0.06	2.03	0.12	2.07	0.04	2.08	0.05	0.22	-4.29	-2.34	-1.93	3.63	2.85
1 presto/tpcds: q02	17.58	0.12	17.62	0.20	17.29	0.11	17.10	0.07	17.22	0.06	0.23	-1.63	-2.74	-2.06	0.67	1.16
72 presto/tpcds: q73	3.02	0.10	3.03	0.15	2.77	0.14	2.98	0.20	2.89	0.07	0.26	-8.29	-1.24	-4.50	3.42	4.89
3 presto/tpcds: q04	35.58	0.62	35.67	0.34	35.12	0.67	34.96	0.49	35.63	0.67	0.27	-1.29	-1.75	0.16	1.75	0.95
5 presto/tpcds: q06	2.58	0.12	2.58	0.09	2.42	0.08	2.43	0.26	2.58	0.13	0.29	-6.23	-5.58	0.14	4.65	3.60
37 presto/tpcds: q38	9.82	0.33	9.85	0.16	9.64	0.44	9.46	0.16	9.69	0.45	0.31	-1.84	-3.65	-1.36	3.39	1.61

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
63	presto/tpcds: q64	64.00	0.93	64.20	0.97	61.69	0.97	61.59	1.91	62.06	1.12	0.32	-3.60	-3.76	-3.03	1.45	1.51
51	presto/tpcds: q52	2.07	0.35	2.08	0.04	2.04	0.04	2.07	0.03	2.12	0.14	0.32	-1.40	0.20	2.53	16.86	2.16
6	presto/tpcds: q07	4.47	0.21	4.49	0.48	4.21	0.41	4.26	0.38	4.30	0.36	0.45	-5.65	-4.69	-3.85	4.61	10.66
22	presto/tpcds: q23	86.11	0.73	86.64	1.32	83.95	0.93	83.13	0.55	84.59	0.93	0.62	-2.50	-3.46	-1.76	0.84	1.53
92	presto/tpcds: q93	28.59	0.41	28.80	0.43	28.22	0.95	27.61	0.34	28.32	0.71	0.74	-1.29	-3.45	-0.94	1.45	1.48
62	presto/tpcds: q63	2.49	0.24	2.51	0.26	2.52	0.33	2.48	0.20	2.43	0.19	0.82	1.11	-0.26	-2.45	9.61	10.25
73	presto/tpcds: q74	14.41	0.54	14.56	0.40	13.82	0.23	13.68	0.10	13.83	0.24	1.06	-4.06	-5.06	-4.01	3.74	2.72
54	presto/tpcds: q55	2.20	0.14	2.23	0.43	2.98	1.39	2.07	0.04	2.08	0.02	1.10	35.02	-6.08	-5.59	6.29	19.51
56	presto/tpcds: q57	18.55	0.28	18.79	0.58	19.35	0.60	18.66	0.57	18.59	0.33	1.30	4.28	0.58	0.20	1.51	3.08
13	presto/tpcds: q14	96.45	1.03	97.82	0.79	95.08	0.60	93.51	1.20	95.28	0.51	1.42	-1.42	-3.05	-1.21	1.07	0.80
10	presto/tpcds: q11	20.21	0.36	20.54	0.23	20.04	0.13	19.75	0.29	20.03	0.26	1.64	-0.81	-2.27	-0.88	1.78	1.12
71	presto/tpcds: q72	19.69	0.64	20.06	0.65	19.97	0.81	19.52	0.47	20.13	0.74	1.87	1.39	-0.88	2.24	3.27	3.26
35	presto/tpcds: q36	2.82	0.06	2.88	0.14	2.74	0.08	2.82	0.09	2.71	0.10	2.23	-2.74	-0.07	-3.88	2.25	4.78
88	presto/tpcds: q89	4.52	0.20	4.63	0.38	4.19	0.54	4.99	1.38	4.56	0.41	2.48	-7.20	10.49	1.06	4.42	8.27
86	presto/tpcds: q87	10.09	0.31	10.35	0.25	10.16	0.65	10.15	0.58	10.08	0.11	2.55	0.65	0.59	-0.13	3.03	2.44
39	presto/tpcds: q40	5.30	0.43	5.44	0.42	5.47	0.48	5.11	0.32	5.10	0.21	2.59	3.03	-3.59	-3.86	8.09	7.73
93	presto/tpcds: q94	4.87	0.29	5.01	0.43	4.62	0.17	4.57	0.10	4.79	0.34	2.81	-5.17	-6.33	-1.79	5.92	8.53
46	presto/tpcds: q47	35.32	0.85	36.33	1.18	35.51	0.61	34.69	1.04	34.82	1.08	2.88	0.56	-1.78	-1.39	2.41	3.24

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
8	presto/tpcds: q09	25.74	0.40	26.50	1.42	25.50	0.47	25.14	0.39	25.38	0.44	2.92	-0.96	-2.34	-1.42	1.56	5.36
67	presto/tpcds: q68	4.45	0.30	4.59	0.59	4.12	0.04	4.09	0.06	4.22	0.26	3.14	-7.41	-7.96	-5.10	6.65	12.76
33	presto/tpcds: q34	3.31	0.45	3.42	0.31	3.16	0.22	3.07	0.10	3.02	0.12	3.38	-4.45	-7.15	-8.79	13.75	9.15
11	presto/tpcds: q12	0.56	0.03	0.58	0.04	0.52	0.02	0.57	0.07	0.54	0.01	3.47	-7.30	2.24	-2.36	5.21	6.67
57	presto/tpcds: q58	7.93	0.55	8.26	0.29	8.11	0.45	7.53	0.15	8.07	0.32	4.15	2.29	-5.09	1.77	6.92	3.57
97	presto/tpcds: q98	2.57	0.15	2.70	0.11	2.73	0.54	2.50	0.11	2.76	0.13	5.05	5.98	-2.73	7.28	5.88	4.16
85	presto/tpcds: q86	1.81	0.05	1.90	0.08	1.83	0.10	1.79	0.08	1.93	0.23	5.09	1.08	-1.33	6.73	2.71	4.39
28	presto/tpcds: q29	5.89	0.17	6.19	0.19	5.60	0.14	5.86	0.42	5.94	0.23	5.12	-4.90	-0.51	0.89	2.92	3.14
69	presto/tpcds: q70	12.21	0.45	12.85	1.05	12.70	0.45	12.95	0.32	12.59	0.62	5.19	4.00	6.05	3.10	3.65	8.14
15	presto/tpcds: q16	8.51	0.56	8.96	0.71	8.44	0.53	8.42	0.41	8.26	0.67	5.37	-0.81	-1.03	-2.91	6.62	7.88
25	presto/tpcds: q26	2.28	0.12	2.40	0.46	2.48	0.39	2.65	0.14	2.55	0.09	5.47	8.84	16.49	11.87	5.17	19.00
68	presto/tpcds: q69	1.51	0.36	1.59	0.64	1.25	0.10	1.46	0.48	1.72	0.47	5.72	-16.94	-3.17	14.01	24.01	39.97
14	presto/tpcds: q15	1.91	0.16	2.03	0.12	1.95	0.04	2.00	0.07	1.96	0.09	6.38	2.53	5.01	2.93	8.18	5.84
44	presto/tpcds: q45	1.82	0.18	1.94	0.35	1.84	0.33	1.66	0.07	1.73	0.08	6.90	1.09	-8.57	-4.97	9.80	18.16
47	presto/tpcds: q48	5.02	0.51	5.37	0.53	5.34	0.59	5.44	0.36	5.39	0.55	6.98	6.44	8.43	7.38	10.22	9.89
50	presto/tpcds: q51	8.61	0.49	9.29	0.66	8.33	0.30	8.26	0.31	8.27	0.40	7.92	-3.21	-4.08	-3.89	5.71	7.06
79	presto/tpcds: q80	11.33	1.94	12.24	1.47	11.50	1.40	11.73	2.32	10.89	2.47	8.01	1.44	3.45	-3.92	17.12	12.01
48	presto/tpcds: q49	6.83	0.95	7.40	1.73	6.03	0.13	6.20	0.35	6.65	0.77	8.34	-11.78	-9.19	-2.71	13.92	23.43

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
2	presto/tpcds: q03	2.05	0.16	2.27	0.49	2.10	0.16	1.99	0.11	1.92	0.08	11.14	2.73	-2.53	-5.92	7.59	21.76
91	presto/tpcds: q92	1.54	0.60	1.76	0.27	0.97	0.08	1.16	0.24	1.13	0.29	14.22	-36.73	-24.69	-26.76	39.34	15.41
42	presto/tpcds: q43	4.46	0.35	5.17	1.56	4.85	0.09	4.84	0.32	4.72	0.54	15.98	8.92	8.73	5.99	7.96	30.13
76	presto/tpcds: q77	2.49	0.13	2.96	0.68	2.70	0.53	2.58	0.43	2.76	0.54	19.02	8.58	3.62	10.84	5.18	22.79
40	presto/tpcds: q41	0.31	0.01	0.41	0.10	0.29	0.02	0.29	0.01	0.33	0.09	28.76	-8.26	-8.16	3.60	3.96	24.44

```
count    99
mean     -1
std       8
min     -26
25%      -5
50%      -0
75%       3
max      29
Name: % change, dtype: float64
count    99
mean     -4
std       9
min     -37
25%      -7
50%      -4
75%      -1
max      35
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    99
mean     -4
std       8
min     -25
25%      -8
50%      -4
75%      -1
max      16
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    99
mean     -4
std       7
min     -27
25%      -6
50%      -3
```
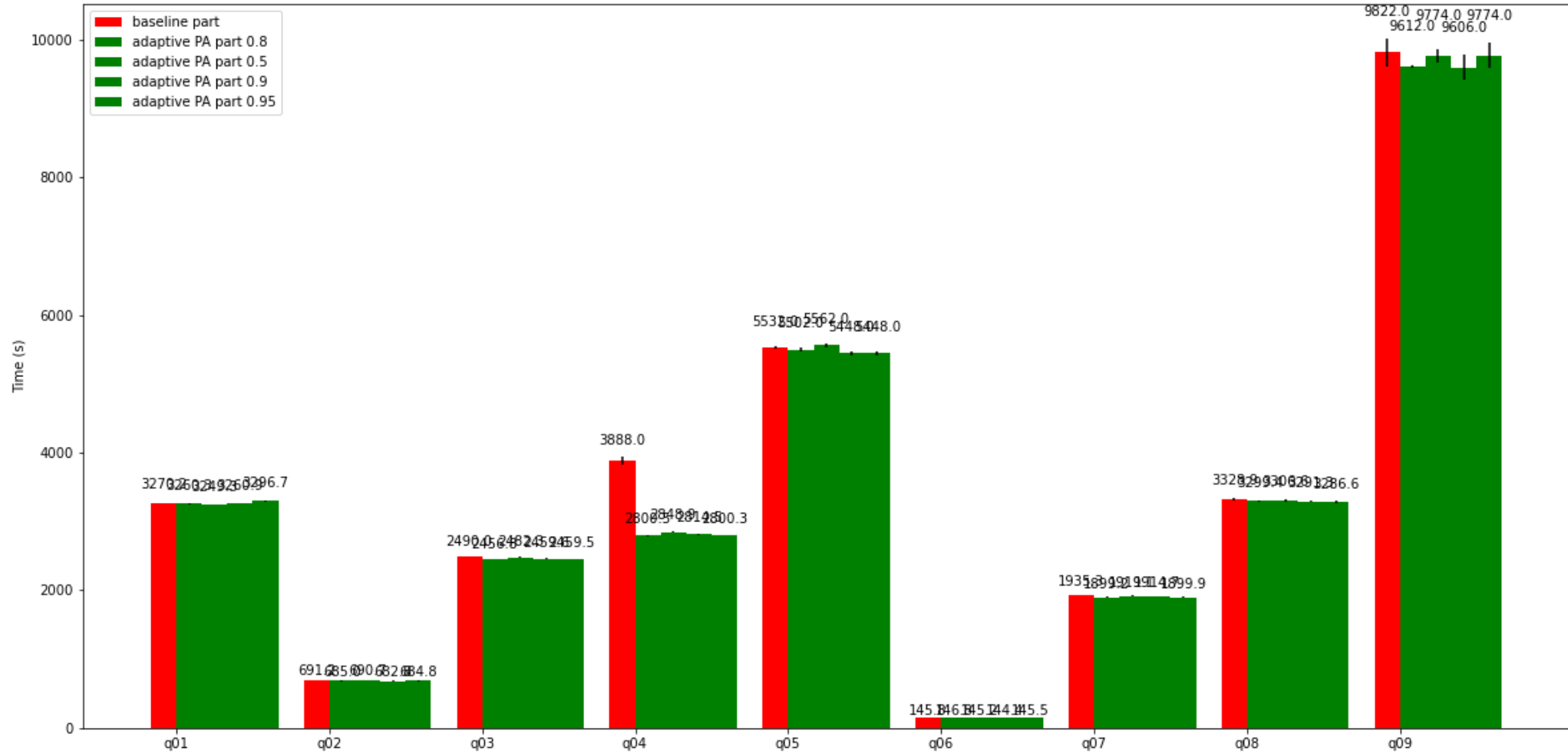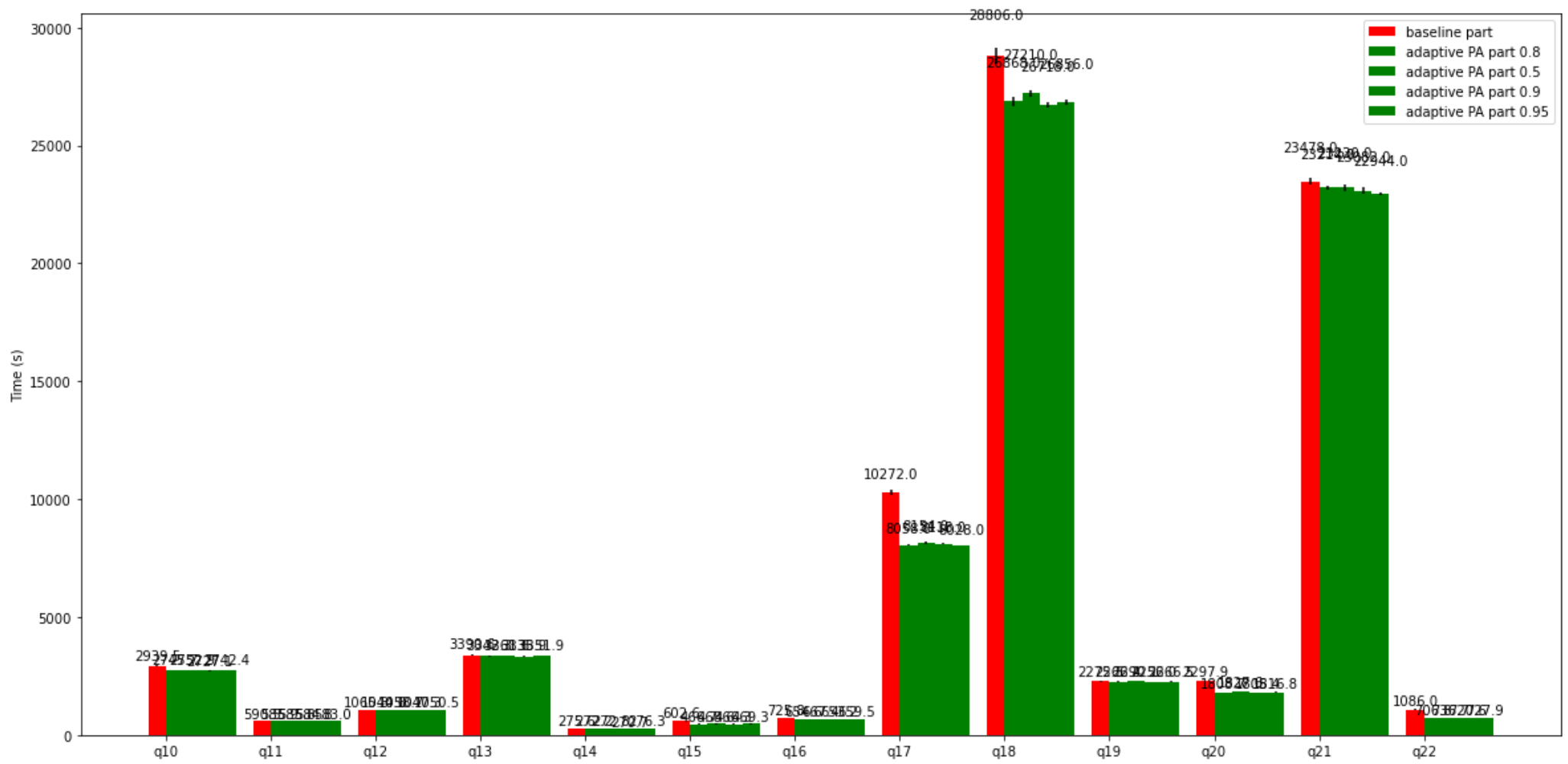
```
75%          -1
max          14
Name: % change base -> adaptive PA part 0.95, dtype: float64
```
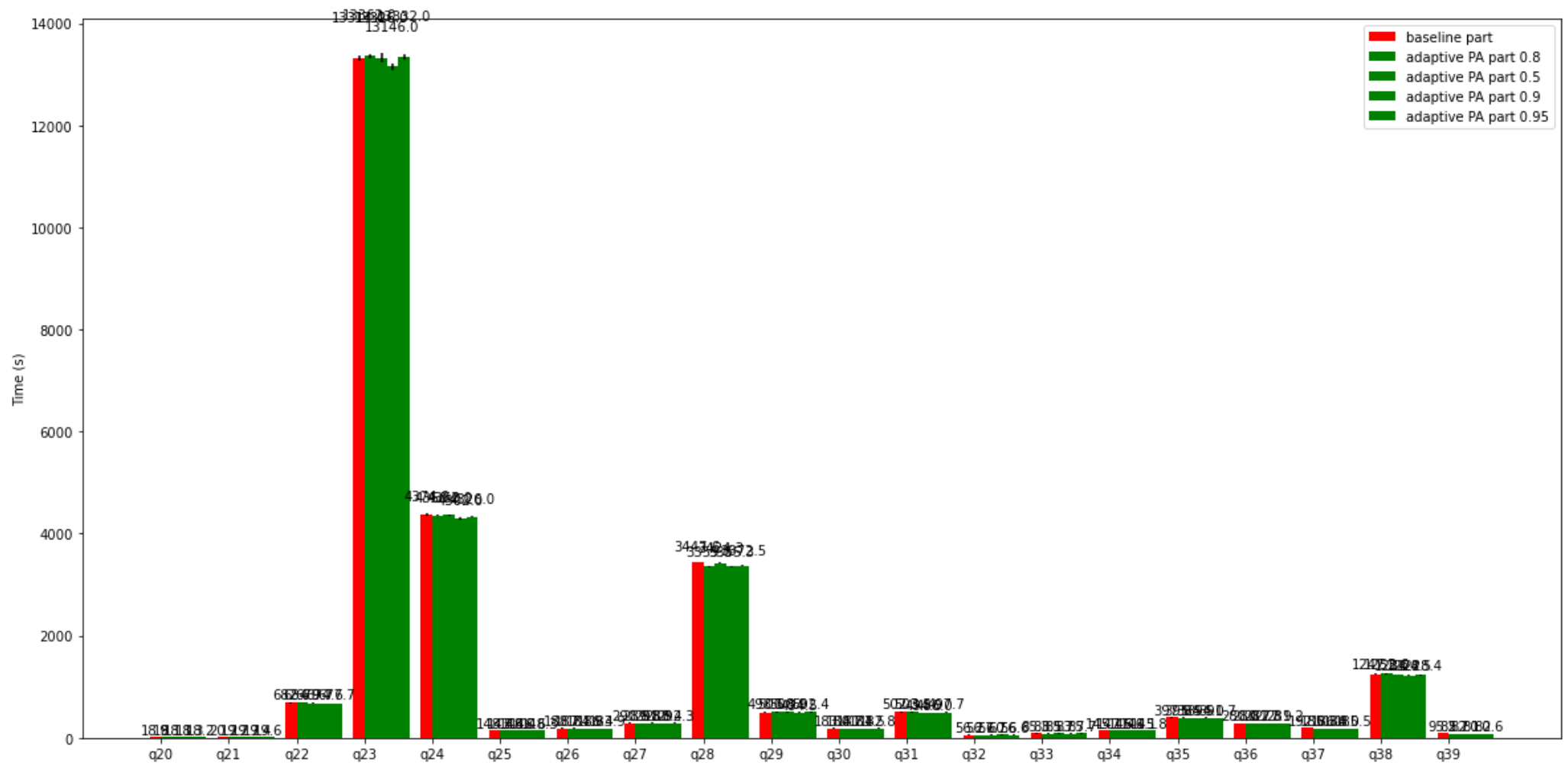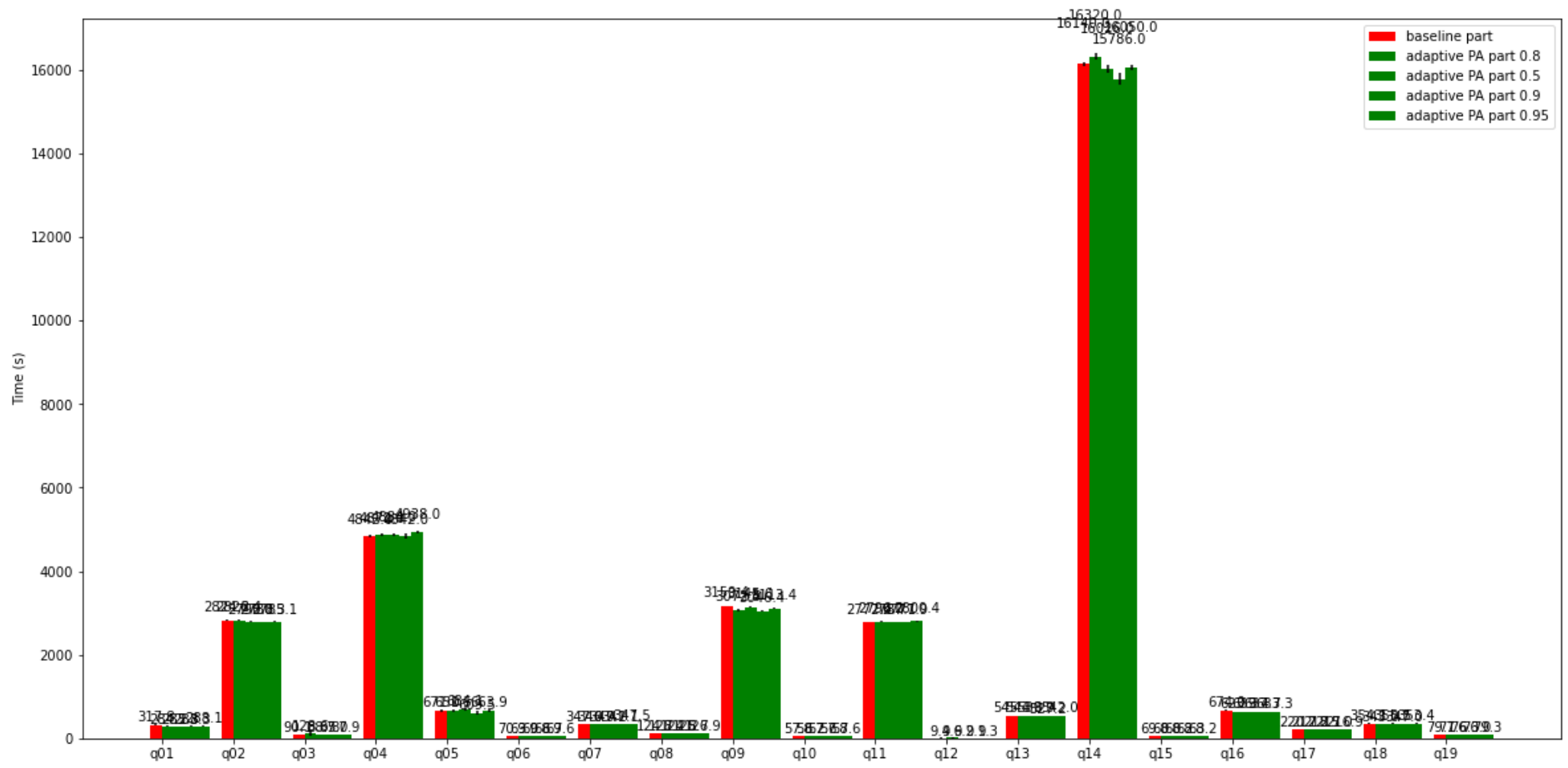
TPC-H Comparison (CPU)

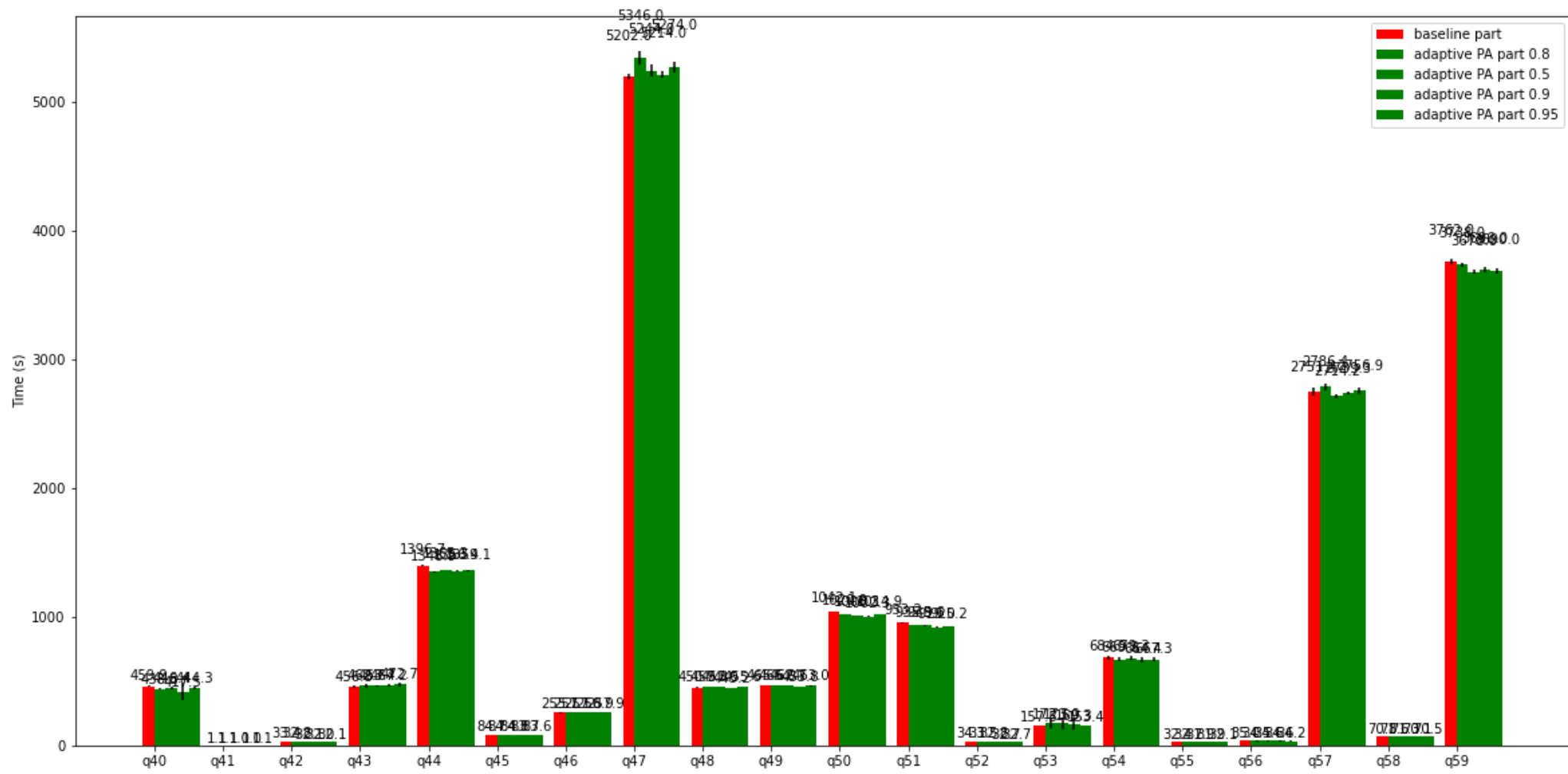|	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
21	presto/tpch: q22	1086.00	0.93	706.80	1.47	736.70	1.34	720.60	1.26	727.90	1.99	-34.92	-32.16	-33.65	-32.97	0.09	0.2
3	presto/tpch: q04	3888.00	55.77	2800.50	11.11	2848.90	9.34	2814.50	3.61	2800.30	4.04	-27.97	-26.73	-27.61	-27.98	1.43	0.40
14	presto/tpch: q15	602.60	3.14	466.70	5.40	468.60	5.99	466.30	2.85	469.30	4.42	-22.55	-22.24	-22.62	-22.12	0.52	1.1
16	presto/tpch: q17	10272.00	119.76	8058.00	27.10	8154.00	67.35	8118.00	37.76	8028.00	0.00	-21.55	-20.62	-20.97	-21.85	1.17	0.34

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
19	presto/tpch: q20	2297.90	2.06	1808.70	2.96	1827.60	2.11	1805.40	1.00	1816.80	2.89	-21.29	-20.47	-21.43	-20.94	0.09	0.16
15	presto/tpch: q16	725.80	2.00	654.60	1.70	667.40	2.10	653.20	2.59	659.50	1.39	-9.81	-8.05	-10.00	-9.13	0.28	0.26
17	presto/tpch: q18	28806.00	334.17	26868.00	216.80	27210.00	142.95	26718.00	100.33	26856.00	106.79	-6.73	-5.54	-7.25	-6.77	1.16	0.8
9	presto/tpch: q10	2939.50	11.95	2745.70	10.11	2752.90	10.66	2727.10	11.36	2742.40	3.97	-6.59	-6.35	-7.23	-6.71	0.41	0.37
8	presto/tpch: q09	9822.00	199.03	9612.00	22.77	9774.00	98.59	9606.00	181.32	9774.00	186.02	-2.14	-0.49	-2.20	-0.49	2.03	0.24
11	presto/tpch: q12	1065.30	1.77	1044.60	1.65	1058.70	1.73	1047.30	2.59	1050.50	2.44	-1.94	-0.62	-1.69	-1.39	0.17	0.16
6	presto/tpch: q07	1935.30	5.30	1899.20	8.71	1919.10	4.80	1914.70	6.04	1899.90	3.57	-1.87	-0.84	-1.06	-1.83	0.27	0.46
12	presto/tpch: q13	3390.60	14.62	3342.30	20.37	3361.60	12.28	3335.90	7.22	3351.90	8.59	-1.42	-0.86	-1.61	-1.14	0.43	0.6
2	presto/tpch: q03	2490.00	2.34	2456.80	3.30	2482.30	3.21	2459.60	8.23	2459.50	3.59	-1.33	-0.31	-1.22	-1.22	0.09	0.13
13	presto/tpch: q14	275.60	1.40	272.20	1.81	272.80	1.45	270.70	3.40	276.30	3.15	-1.23	-1.02	-1.78	0.25	0.51	0.66
20	presto/tpch: q21	23478.00	142.95	23214.00	92.25	23220.00	138.49	23082.00	135.50	22944.00	43.60	-1.12	-1.10	-1.69	-2.27	0.61	0.40
1	presto/tpch: q02	691.20	2.74	685.00	4.94	690.70	2.41	682.80	1.47	684.80	2.14	-0.90	-0.07	-1.22	-0.93	0.40	0.72
7	presto/tpch: q08	3328.90	16.18	3299.40	5.51	3306.60	13.57	3291.30	11.50	3286.60	9.80	-0.89	-0.67	-1.13	-1.27	0.49	0.17
10	presto/tpch: q11	590.50	3.86	585.90	1.93	585.80	1.64	584.80	3.41	583.00	1.40	-0.78	-0.80	-0.97	-1.27	0.65	0.33
4	presto/tpch: q05	5532.00	18.59	5502.00	27.10	5562.00	37.76	5448.00	29.39	5448.00	29.39	-0.54	0.54	-1.52	-1.52	0.34	0.49
18	presto/tpch: q19	2275.50	13.59	2266.40	9.22	2290.10	4.61	2256.00	5.42	2266.50	4.66	-0.40	0.64	-0.86	-0.40	0.60	0.4
0	presto/tpch: q01	3270.20	5.92	3260.30	2.77	3249.30	2.86	3260.90	2.72	3296.70	6.01	-0.30	-0.64	-0.28	0.81	0.18	0.09
5	presto/tpch: q06	145.80	0.54	146.80	0.31	145.20	0.38	144.40	0.31	145.50	0.50	0.69	-0.41	-0.96	-0.21	0.37	0.2

```
count     22
mean      -8
std       11
min      -35
25%       -9
50%       -2
75%       -1
max        1
Name: % change, dtype: float64
count     22
mean      -7
std       10
min      -32
25%       -8
50%       -1
75%       -1
max        1
Name: % change base -> adaptive PA part 0.5, dtype: float64
count     22
mean      -8
std       10
min      -34
25%       -9
50%       -2
75%       -1
max       -0
Name: % change base -> adaptive PA part 0.9, dtype: float64
count     22
mean      -7
std       10
min      -33
25%       -9
50%       -1
75%       -1
max        1
Name: % change base -> adaptive PA part 0.95, dtype: float64
```
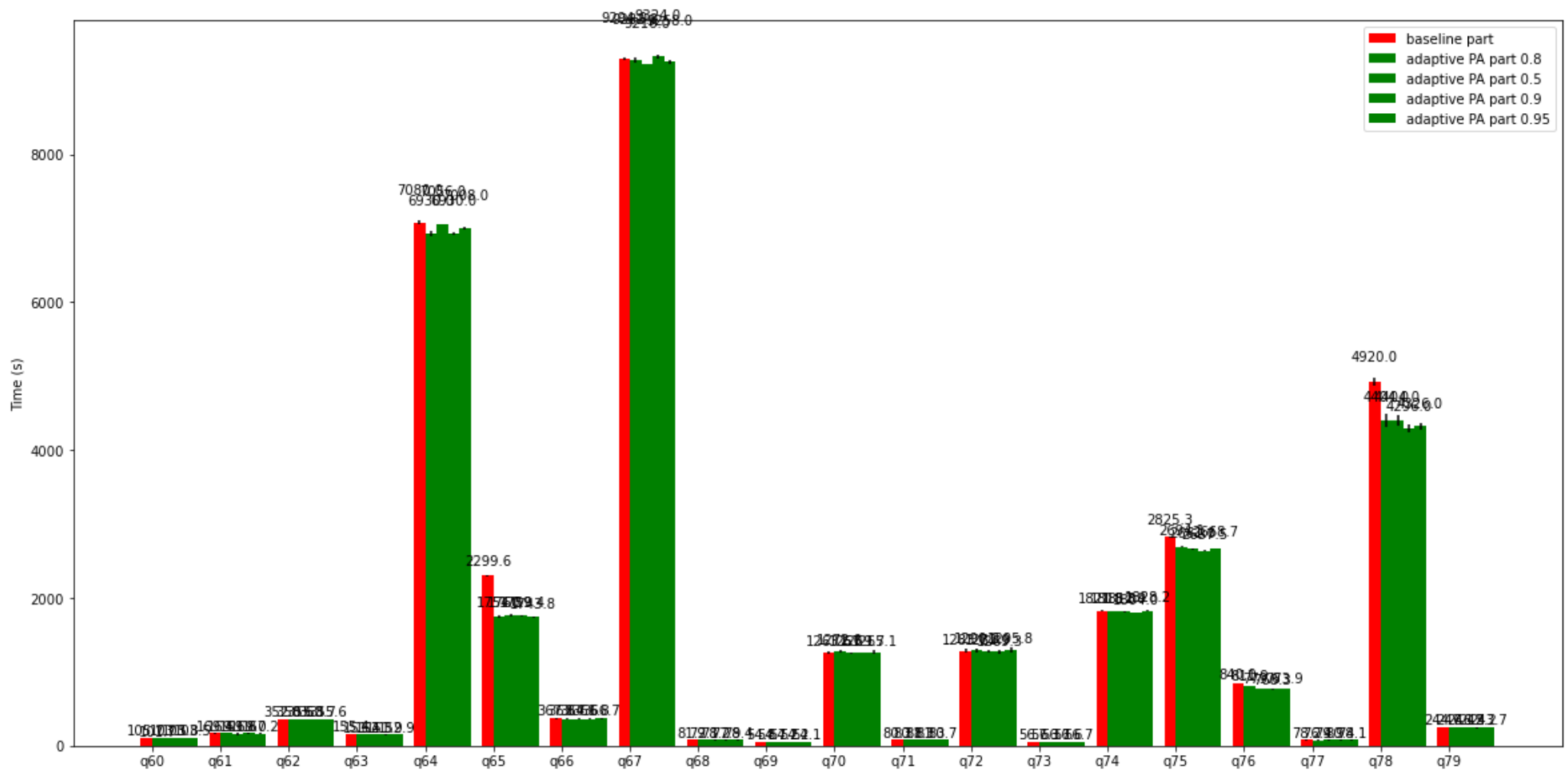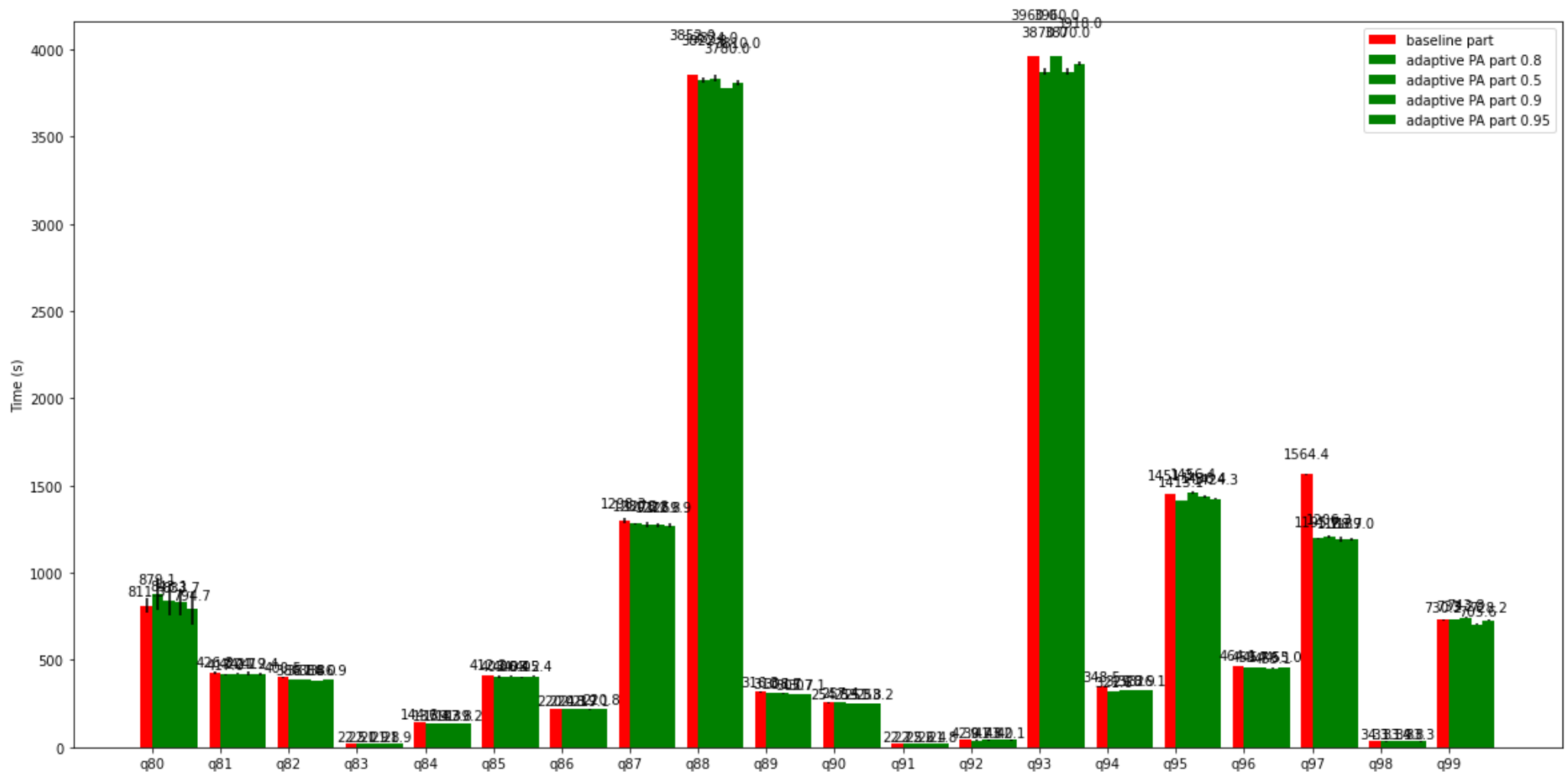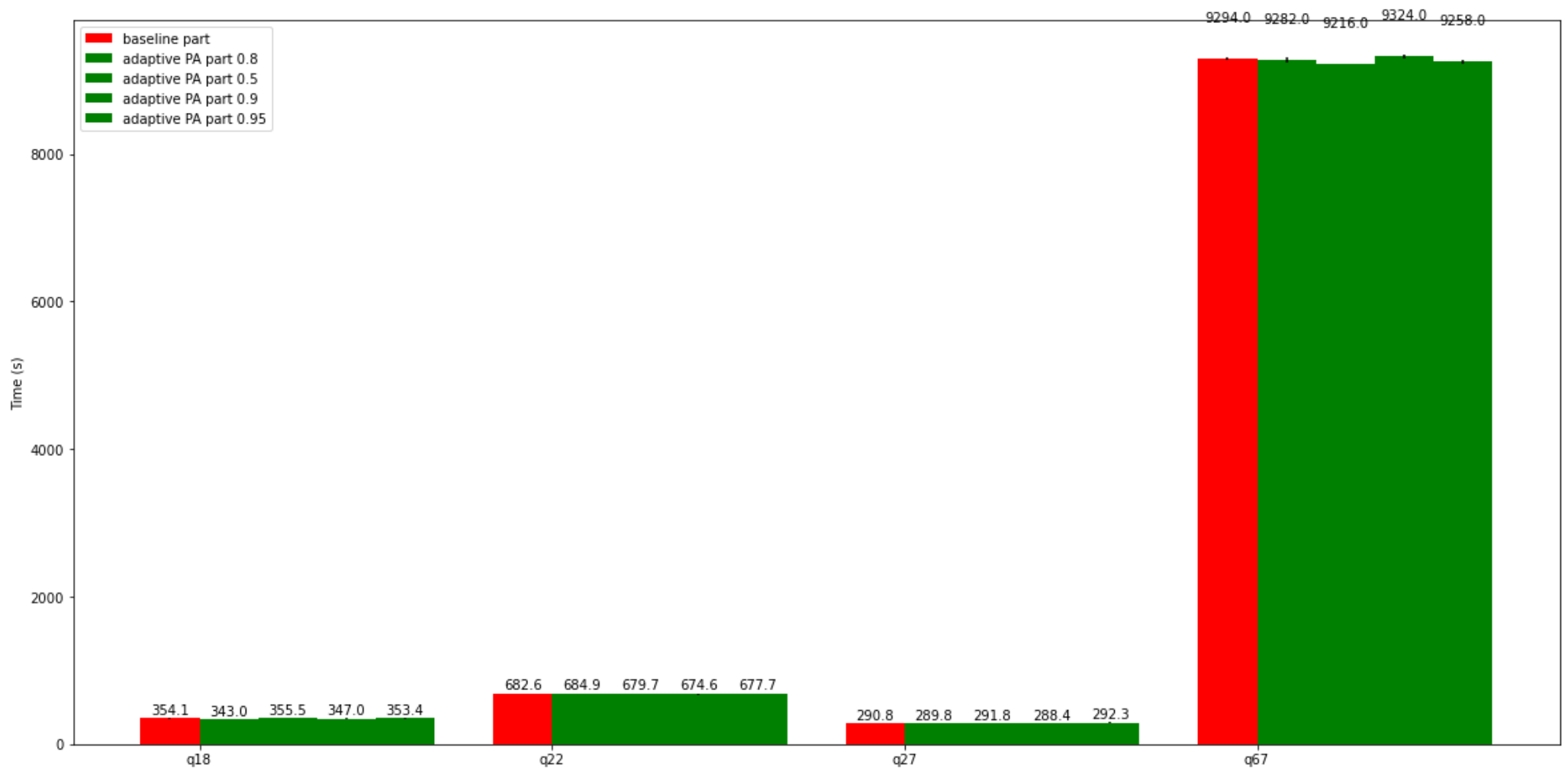
TPC-DS Comparison (CPU)

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
64	presto/tpcds: q65	2299.60	5.66	1754.00	19.74	1760.90	16.02	1759.40	8.06	1743.80	11.19	-23.73	-23.43	-23.49	-24.17	0.25	1.13
96	presto/tpcds: q97	1564.40	4.45	1195.70	5.40	1206.30	9.31	1188.70	14.71	1189.00	7.01	-23.57	-22.89	-24.02	-24.00	0.28	0.45
38	presto/tpcds: q39	95.50	1.67	82.70	2.61	82.10	2.82	80.20	1.40	80.60	0.62	-13.40	-14.03	-16.02	-15.60	1.75	3.16
0	presto/tpcds: q01	317.80	11.37	284.20	13.17	285.80	8.52	283.30	16.17	288.10	12.09	-10.57	-10.07	-10.86	-9.35	3.58	4.63

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
77	presto/tpcds: q78	4920.00	54.20	4404.00	84.17	4404.00	67.03	4296.00	54.20	4326.00	42.09	-10.49	-10.49	-12.68	-12.07	1.10	1.91
93	presto/tpcds: q94	348.50	0.59	321.60	0.38	329.30	0.45	328.90	0.45	326.10	0.73	-7.72	-5.51	-5.62	-6.43	0.17	0.12
15	presto/tpcds: q16	674.00	1.68	623.30	1.28	639.40	1.24	637.70	1.63	633.30	1.24	-7.52	-5.13	-5.39	-6.04	0.25	0.21
91	presto/tpcds: q92	41.99	1.01	39.71	2.73	41.76	2.53	43.03	1.43	42.06	4.26	-5.44	-0.57	2.46	0.15	2.41	6.86
83	presto/tpcds: q84	144.60	1.47	137.40	0.66	139.30	0.45	137.80	1.05	139.20	0.66	-4.98	-3.67	-4.70	-3.73	1.02	0.48
20	presto/tpcds: q21	20.20	0.41	19.23	0.30	19.69	0.52	19.39	0.26	19.57	0.28	-4.78	-2.50	-4.00	-3.07	2.04	1.56
74	presto/tpcds: q75	2825.30	8.00	2694.10	16.36	2661.00	8.95	2637.50	13.01	2668.70	5.85	-4.64	-5.82	-6.65	-5.54	0.28	0.61
39	presto/tpcds: q40	459.90	4.49	438.80	6.39	446.40	6.56	417.50	67.13	444.30	7.03	-4.59	-2.94	-9.22	-3.39	0.98	1.46
16	presto/tpcds: q17	220.70	0.80	212.20	0.62	218.70	0.91	215.00	0.31	216.90	0.33	-3.85	-0.91	-2.58	-1.72	0.36	0.29
59	presto/tpcds: q60	105.70	4.38	101.70	1.41	103.50	1.24	103.80	3.26	103.50	1.06	-3.78	-2.08	-1.80	-2.08	4.15	1.38
81	presto/tpcds: q82	400.50	1.12	386.10	0.63	387.80	1.45	384.00	0.66	386.90	0.80	-3.60	-3.17	-4.12	-3.40	0.28	0.16
24	presto/tpcds: q25	148.80	1.52	143.60	0.31	148.00	1.59	146.60	1.68	148.30	2.32	-3.49	-0.54	-1.48	-0.34	1.02	0.22
36	presto/tpcds: q37	192.00	0.38	185.30	0.70	186.80	0.31	184.00	0.31	185.50	0.45	-3.49	-2.71	-4.17	-3.39	0.20	0.38
43	presto/tpcds: q44	1396.70	3.07	1348.90	6.15	1365.30	2.59	1356.40	3.21	1359.10	2.23	-3.42	-2.25	-2.89	-2.69	0.22	0.46
75	presto/tpcds: q76	840.00	2.52	811.90	5.01	779.60	0.82	768.30	8.99	773.90	1.03	-3.35	-7.19	-8.54	-7.87	0.30	0.62
17	presto/tpcds: q18	354.10	5.99	343.00	3.71	355.50	5.56	347.00	6.46	353.40	5.77	-3.13	0.40	-2.01	-0.20	1.69	1.08
97	presto/tpcds: q98	34.12	0.72	33.12	0.60	33.85	0.64	34.81	0.89	33.33	1.03	-2.94	-0.79	2.04	-2.32	2.11	1.81
4	presto/tpcds: q05	671.00	31.53	651.50	26.46	684.10	27.54	609.50	59.92	663.90	25.58	-2.91	1.95	-9.17	-1.06	4.70	4.06

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
8	presto/tpcds: q09	3159.40	12.63	3072.50	26.68	3145.60	24.89	3046.40	17.77	3113.40	18.62	-2.75	-0.44	-3.58	-1.46	0.40	0.87
32	presto/tpcds: q33	85.80	4.68	83.50	3.67	85.70	2.97	83.70	4.53	85.70	4.33	-2.68	-0.12	-2.45	-0.12	5.45	4.39
94	presto/tpcds: q95	1451.30	2.77	1413.10	2.09	1456.40	7.45	1436.40	4.98	1424.30	3.38	-2.63	0.35	-1.03	-1.86	0.19	0.15
67	presto/tpcds: q68	81.20	2.07	79.10	1.16	78.20	0.98	77.90	0.70	78.40	1.12	-2.59	-3.69	-4.06	-3.45	2.55	1.47
62	presto/tpcds: q63	155.40	0.38	151.40	0.31	152.30	0.70	151.90	4.67	152.90	1.99	-2.57	-1.99	-2.25	-1.61	0.24	0.20
27	presto/tpcds: q28	3447.60	3.78	3359.00	10.55	3424.30	13.00	3355.30	11.63	3372.50	9.92	-2.57	-0.68	-2.68	-2.18	0.11	0.31
82	presto/tpcds: q83	22.51	0.74	21.99	0.83	21.90	0.50	21.82	0.83	21.87	1.03	-2.34	-2.72	-3.07	-2.87	3.28	3.80
76	presto/tpcds: q77	78.20	2.14	76.40	1.30	79.90	2.32	80.40	2.86	78.10	3.78	-2.30	2.17	2.81	-0.13	2.73	1.70
80	presto/tpcds: q81	426.80	7.18	417.00	3.29	422.70	3.71	421.20	10.55	419.40	6.58	-2.30	-0.96	-1.31	-1.73	1.68	0.79
92	presto/tpcds: q93	3960.00	0.00	3870.00	19.72	3960.00	0.00	3870.00	19.72	3918.00	14.70	-2.27	0.00	-2.27	-1.06	0.00	0.51
84	presto/tpcds: q85	412.20	2.31	403.00	4.73	406.40	3.53	403.20	3.93	405.40	4.56	-2.23	-1.41	-2.18	-1.65	0.56	1.17
53	presto/tpcds: q54	684.50	15.47	669.50	19.57	679.30	14.22	664.40	17.81	667.30	17.27	-2.19	-0.76	-2.94	-2.51	2.26	2.92
63	presto/tpcds: q64	7080.00	29.39	6930.00	37.76	7056.00	0.00	6930.00	19.72	7008.00	18.59	-2.12	-0.34	-2.12	-1.02	0.42	0.54
49	presto/tpcds: q50	1042.10	1.58	1020.90	0.91	1006.30	1.39	1002.30	1.35	1014.90	0.73	-2.03	-3.44	-3.82	-2.61	0.15	0.09
88	presto/tpcds: q89	316.30	1.28	310.10	0.88	308.70	0.63	305.70	0.50	307.10	0.45	-1.96	-2.40	-3.35	-2.91	0.41	0.28
51	presto/tpcds: q52	34.11	0.12	33.45	0.12	32.82	0.07	32.65	0.07	32.74	0.09	-1.93	-3.79	-4.27	-4.01	0.35	0.37
18	presto/tpcds: q19	79.10	4.82	77.60	3.19	76.30	1.44	76.00	1.68	79.30	5.13	-1.90	-3.54	-3.92	0.25	6.10	4.11
5	presto/tpcds: q06	70.30	0.96	69.00	0.66	69.60	0.66	68.70	0.50	69.60	0.38	-1.85	-1.00	-2.28	-1.00	1.37	0.95

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
50	presto/tpcds: q51	953.20	4.30	935.90	4.61	935.60	5.29	919.00	1.77	925.20	2.43	-1.81	-1.85	-3.59	-2.94	0.45	0.49
41	presto/tpcds: q42	33.40	0.11	32.83	0.06	32.07	0.04	31.96	0.08	32.13	0.06	-1.71	-3.97	-4.29	-3.80	0.34	0.19
29	presto/tpcds: q30	183.40	5.98	180.70	7.27	181.40	3.81	181.50	5.30	182.80	9.79	-1.47	-1.09	-1.04	-0.33	3.26	4.03
14	presto/tpcds: q15	69.00	0.00	68.00	0.31	68.20	0.31	68.30	0.45	68.20	0.49	-1.45	-1.16	-1.01	-1.16	0.00	0.46
86	presto/tpcds: q87	1298.30	12.51	1280.20	5.40	1278.80	14.52	1272.80	14.48	1269.90	11.84	-1.39	-1.50	-1.96	-2.19	0.96	0.42
55	presto/tpcds: q56	34.95	0.29	34.52	0.67	34.64	0.82	34.58	0.99	34.17	0.70	-1.26	-0.90	-1.09	-2.25	0.84	1.94
65	presto/tpcds: q66	367.80	6.63	363.70	5.81	364.60	5.73	361.80	6.92	366.70	5.52	-1.11	-0.87	-1.63	-0.30	1.80	1.60
95	presto/tpcds: q96	464.10	0.63	459.70	0.59	454.60	0.49	453.10	0.59	455.00	0.98	-0.95	-2.05	-2.37	-1.96	0.14	0.13
90	presto/tpcds: q91	22.66	2.33	22.47	2.26	22.57	2.06	22.38	1.96	21.81	1.75	-0.85	-0.40	-1.24	-3.76	10.29	10.08
25	presto/tpcds: q26	188.70	2.03	187.10	2.90	184.90	2.29	186.40	1.45	183.90	1.64	-0.85	-2.01	-1.22	-2.54	1.08	1.55
40	presto/tpcds: q41	1.06	0.01	1.05	0.01	1.04	0.01	1.04	0.01	1.05	0.01	-0.79	-1.89	-1.42	-0.94	1.03	0.72
87	presto/tpcds: q88	3852.00	0.00	3822.00	14.70	3834.00	19.72	3780.00	0.00	3810.00	14.70	-0.78	-0.47	-1.87	-1.09	0.00	0.38
58	presto/tpcds: q59	3762.00	19.72	3738.00	14.70	3678.00	14.70	3696.00	18.59	3690.00	19.72	-0.64	-2.23	-1.75	-1.91	0.52	0.39
34	presto/tpcds: q35	397.90	14.34	395.50	3.93	384.50	8.94	394.00	9.13	391.70	4.61	-0.60	-3.37	-0.98	-1.56	3.60	0.99
23	presto/tpcds: q24	4374.00	19.72	4350.00	14.70	4362.00	14.70	4302.00	19.72	4326.00	14.70	-0.55	-0.27	-1.65	-1.10	0.45	0.34
44	presto/tpcds: q45	84.70	0.24	84.40	1.30	84.80	0.31	83.70	0.73	83.60	0.31	-0.35	0.12	-1.18	-1.30	0.29	1.54
26	presto/tpcds: q27	290.80	2.14	289.80	1.37	291.80	2.42	288.40	1.64	292.30	2.90	-0.34	0.34	-0.83	0.52	0.73	0.47
60	presto/tpcds: q61	169.40	1.68	169.10	0.96	159.80	14.52	169.00	1.55	167.20	3.90	-0.18	-5.67	-0.24	-1.30	0.99	0.57

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
68	presto/tpcds: q69	54.77	0.16	54.67	0.20	54.17	0.36	54.15	1.00	54.14	1.42	-0.18	-1.09	-1.13	-1.16	0.29	0.37
73	presto/tpcds: q74	1821.50	9.34	1818.80	3.39	1812.90	3.81	1804.00	3.34	1828.20	3.74	-0.15	-0.47	-0.96	0.37	0.51	0.19
66	presto/tpcds: q67	9294.00	14.70	9282.00	35.39	9216.00	0.00	9324.00	22.77	9258.00	27.10	-0.13	-0.84	0.32	-0.39	0.16	0.38
48	presto/tpcds: q49	465.60	2.37	465.00	2.18	462.70	0.70	453.80	2.27	463.00	2.33	-0.13	-0.62	-2.53	-0.56	0.51	0.47
12	presto/tpcds: q13	545.30	1.49	544.80	0.93	539.90	0.70	527.20	0.98	542.00	1.45	-0.09	-0.99	-3.32	-0.61	0.27	0.17
85	presto/tpcds: q86	220.40	1.64	220.30	1.49	218.70	0.83	219.10	4.25	220.80	1.74	-0.05	-0.77	-0.59	0.18	0.74	0.68
6	presto/tpcds: q07	347.00	1.81	346.90	1.54	347.20	3.10	341.10	2.86	347.50	1.10	-0.03	0.06	-1.70	0.14	0.52	0.44
35	presto/tpcds: q36	280.00	0.62	280.20	0.66	281.30	0.45	277.90	0.45	281.20	0.31	0.07	0.46	-0.75	0.43	0.22	0.23
1	presto/tpcds: q02	2824.20	13.23	2826.40	12.88	2790.80	16.20	2780.30	10.22	2785.10	13.12	0.08	-1.18	-1.55	-1.38	0.47	0.46
30	presto/tpcds: q31	502.30	4.84	503.50	7.89	494.00	5.39	486.00	3.93	497.70	6.72	0.24	-1.65	-3.25	-0.92	0.96	1.57
21	presto/tpcds: q22	682.60	5.20	684.90	1.41	679.70	4.06	674.60	2.42	677.70	2.42	0.34	-0.42	-1.17	-0.72	0.76	0.21
22	presto/tpcds: q23	13314.00	52.99	13362.00	42.09	13326.00	89.40	13146.00	76.93	13332.00	49.19	0.36	0.09	-1.26	0.14	0.40	0.31
98	presto/tpcds: q99	730.20	2.68	733.20	3.39	743.80	2.91	705.60	1.90	728.20	2.56	0.41	1.86	-3.37	-0.27	0.37	0.46
28	presto/tpcds: q29	498.50	5.14	500.80	6.08	500.90	7.73	494.50	7.01	502.40	5.51	0.46	0.48	-0.80	0.78	1.03	1.21
37	presto/tpcds: q38	1247.20	16.57	1253.60	7.56	1234.80	5.53	1224.50	7.71	1228.40	8.69	0.51	-0.99	-1.82	-1.51	1.33	0.60
71	presto/tpcds: q72	1283.70	29.81	1290.90	24.31	1282.90	20.69	1269.30	30.58	1295.80	33.50	0.56	-0.06	-1.12	0.94	2.32	1.88
31	presto/tpcds: q32	56.23	4.81	56.58	2.13	57.74	3.21	60.60	1.30	56.57	5.07	0.61	2.67	7.77	0.60	8.56	3.77
3	presto/tpcds: q04	4842.00	19.72	4872.00	29.39	4884.00	29.39	4842.00	49.62	4938.00	27.10	0.62	0.87	0.00	1.98	0.41	0.60

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
70	presto/tpcds: q71	80.30	2.09	80.80	1.77	81.30	2.00	81.30	1.73	80.70	1.93	0.62	1.25	1.25	0.50	2.61	2.19
69	presto/tpcds: q70	1263.60	13.42	1272.00	19.78	1257.10	11.47	1259.70	8.01	1265.10	22.73	0.66	-0.51	-0.31	0.12	1.06	1.56
10	presto/tpcds: q11	2777.40	3.22	2796.00	5.26	2787.10	9.22	2777.90	1.67	2800.40	4.05	0.67	0.35	0.02	0.83	0.12	0.19
54	presto/tpcds: q55	32.45	0.13	32.68	0.99	31.93	0.05	31.90	0.10	32.10	0.13	0.70	-1.60	-1.68	-1.08	0.40	3.03
45	presto/tpcds: q46	255.10	5.99	257.10	2.93	257.80	1.40	256.90	1.10	257.90	1.84	0.78	1.06	0.71	1.10	2.35	1.14
89	presto/tpcds: q90	254.80	0.31	257.40	0.38	253.30	0.45	251.80	0.49	253.20	0.66	1.02	-0.59	-1.18	-0.63	0.12	0.15
78	presto/tpcds: q79	244.60	1.18	247.10	4.64	246.50	3.09	242.20	4.01	243.70	1.03	1.02	0.78	-0.98	-0.37	0.48	1.88
9	presto/tpcds: q10	57.59	0.52	58.21	0.60	57.60	0.56	57.69	0.52	58.58	1.31	1.08	0.02	0.17	1.72	0.90	1.04
13	presto/tpcds: q14	16140.00	54.20	16320.00	84.17	16026.00	102.88	15786.00	141.73	16050.00	69.87	1.12	-0.71	-2.19	-0.56	0.34	0.52
57	presto/tpcds: q58	70.80	1.14	71.60	0.82	71.30	0.59	70.10	1.22	70.50	1.24	1.13	0.71	-0.99	-0.42	1.61	1.14
72	presto/tpcds: q73	56.56	0.15	57.25	0.26	56.70	0.20	56.56	0.24	56.74	0.09	1.23	0.26	-0.00	0.32	0.26	0.45
56	presto/tpcds: q57	2751.40	29.50	2786.40	24.13	2714.20	12.05	2739.30	13.13	2756.90	28.08	1.27	-1.35	-0.44	0.20	1.07	0.87
42	presto/tpcds: q43	456.80	10.53	462.70	12.18	463.40	5.27	467.20	6.63	472.70	11.36	1.29	1.44	2.28	3.48	2.30	2.63
19	presto/tpcds: q20	18.82	0.38	19.07	0.51	18.06	0.39	18.26	0.56	18.22	0.51	1.36	-4.02	-2.97	-3.17	2.02	2.70
47	presto/tpcds: q48	450.90	2.62	457.50	2.96	457.00	2.75	445.20	3.52	455.60	2.10	1.46	1.35	-1.26	1.04	0.58	0.65
11	presto/tpcds: q12	9.41	0.40	9.57	0.43	9.17	0.12	9.12	0.26	9.26	0.20	1.65	-2.60	-3.13	-1.63	4.25	4.51
33	presto/tpcds: q34	145.10	0.24	147.60	0.54	145.10	0.45	146.10	0.63	145.80	0.00	1.72	0.00	0.69	0.48	0.17	0.36
61	presto/tpcds: q62	352.00	2.75	358.60	3.59	355.80	4.09	353.70	3.71	355.60	2.93	1.88	1.08	0.48	1.02	0.78	1.00

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA part 0.95	baseline part std.dev %	adaptive PA part 0.8 std.dev %
46	presto/tpcds: q47	5202.00	19.72	5346.00	49.62	5244.00	49.19	5214.00	27.10	5274.00	44.09	2.77	0.81	0.23	1.38	0.38	0.93
7	presto/tpcds: q08	124.70	2.26	128.20	1.24	124.80	1.47	125.70	4.12	126.90	2.24	2.81	0.08	0.80	1.76	1.81	0.97
79	presto/tpcds: q80	811.30	41.28	879.10	89.67	843.10	86.22	833.70	76.26	794.70	96.07	8.36	3.92	2.76	-2.05	5.09	10.20
52	presto/tpcds: q53	157.50	0.33	172.50	42.96	173.00	46.05	169.30	42.87	153.40	0.62	9.52	9.84	7.49	-2.60	0.21	24.91
2	presto/tpcds: q03	90.10	0.24	128.60	62.83	88.50	0.33	87.00	0.00	87.90	0.33	42.73	-1.78	-3.44	-2.44	0.27	48.85

```
count    99
mean     -1
std       6
min     -24
25%      -3
50%      -1
75%       1
max      43
Name: % change, dtype: float64
count    99
mean     -2
std       4
min     -23
25%      -2
50%      -1
75%       0
max      10
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    99
mean     -3
std       4
min     -24
25%      -3
50%      -2
75%      -1
max       8
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    99
mean     -2
std       4
min     -24
25%      -3
50%      -1
```
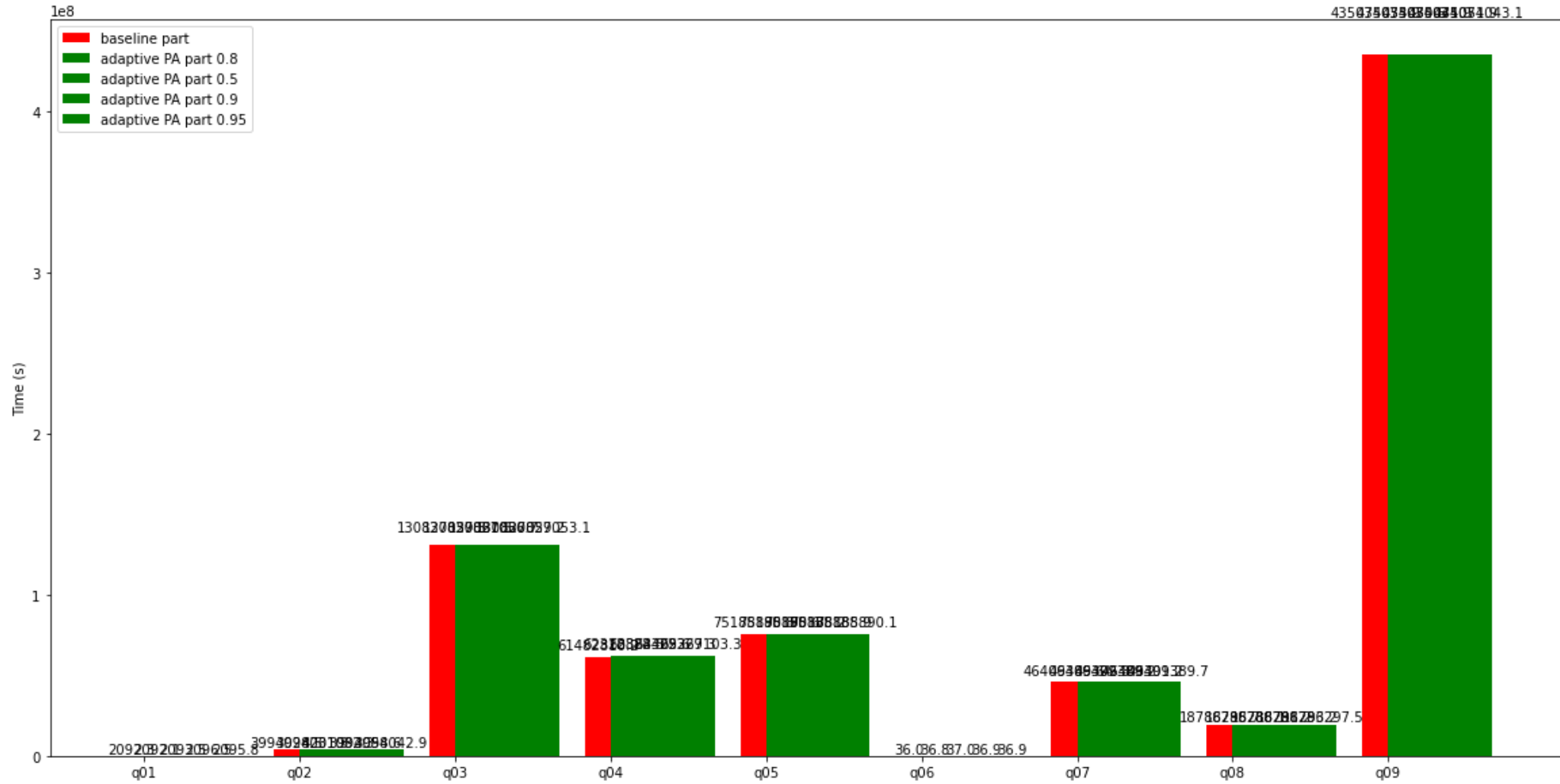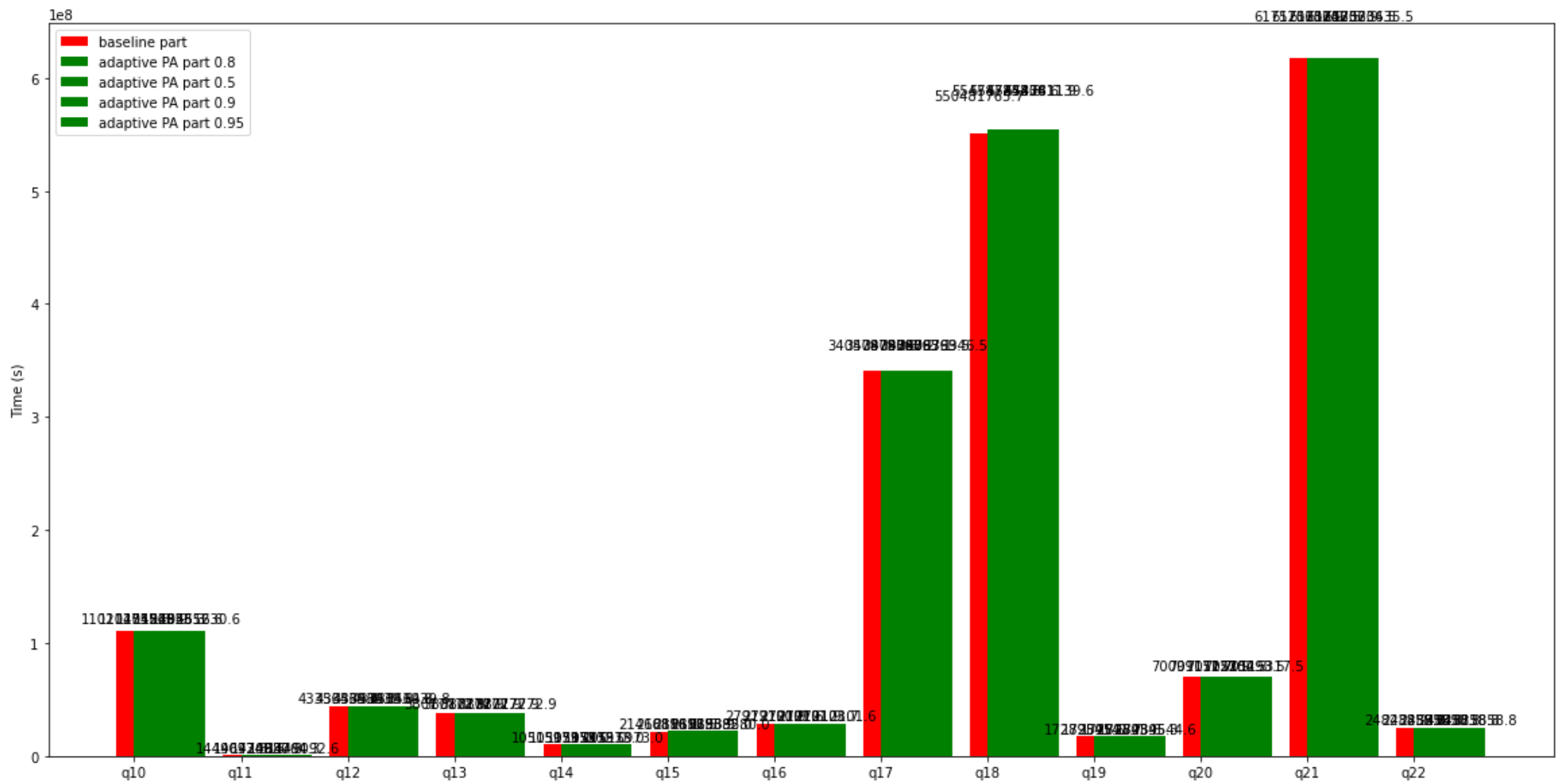
75%   0
max   3
Name: % change base -> adaptive PA part 0.95, dtype: float64
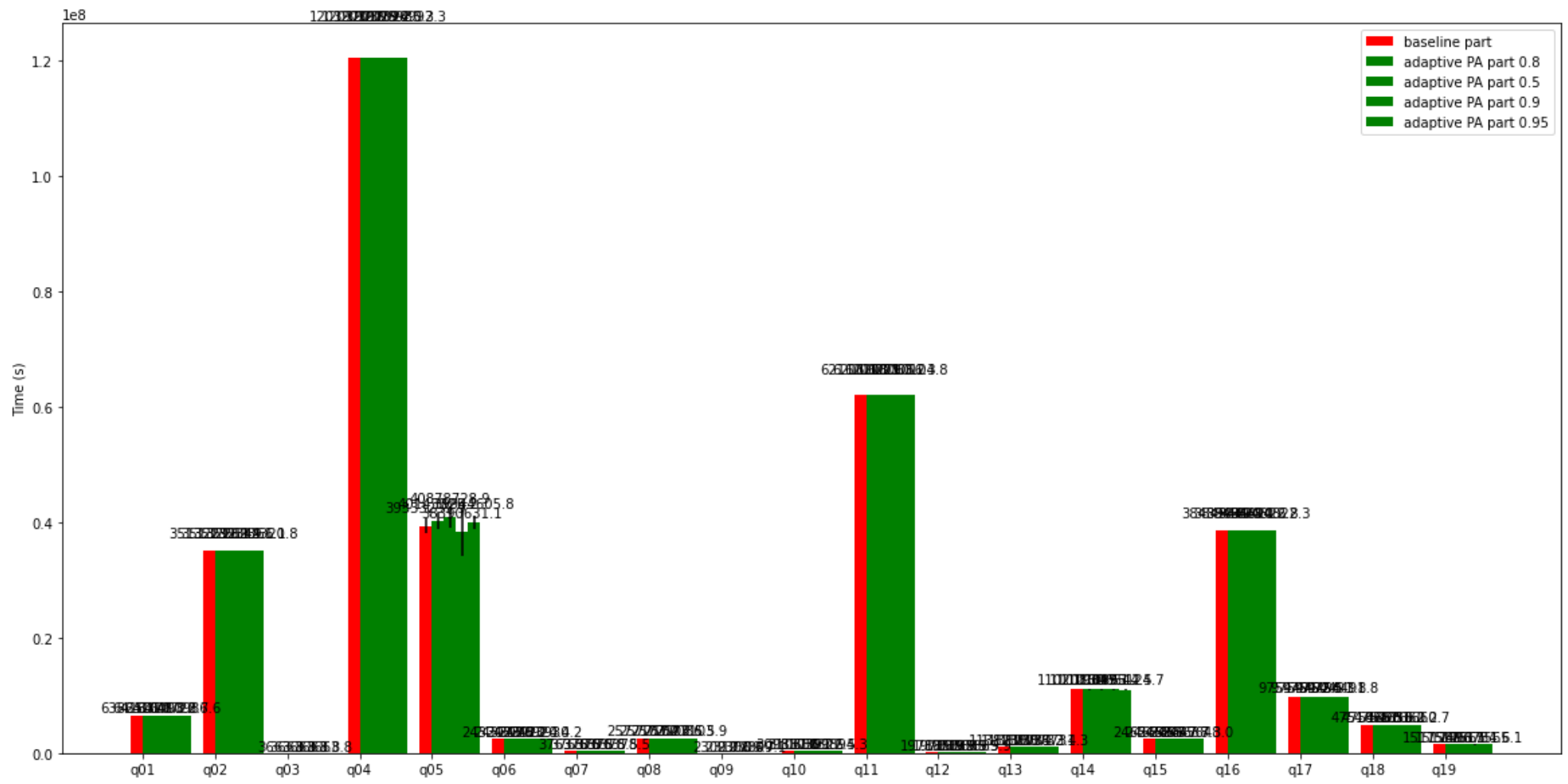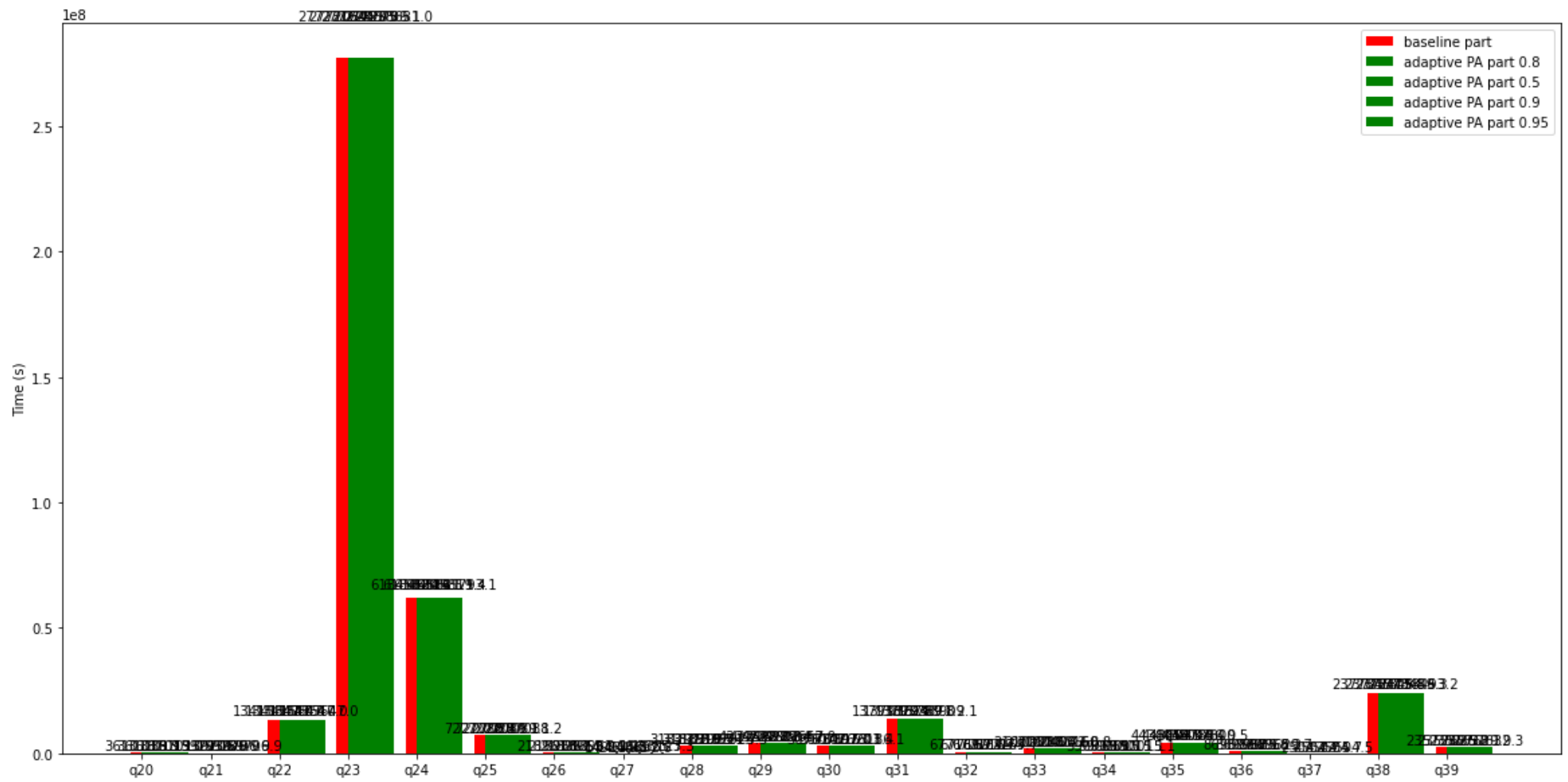
TPC-H Comparison (Network)

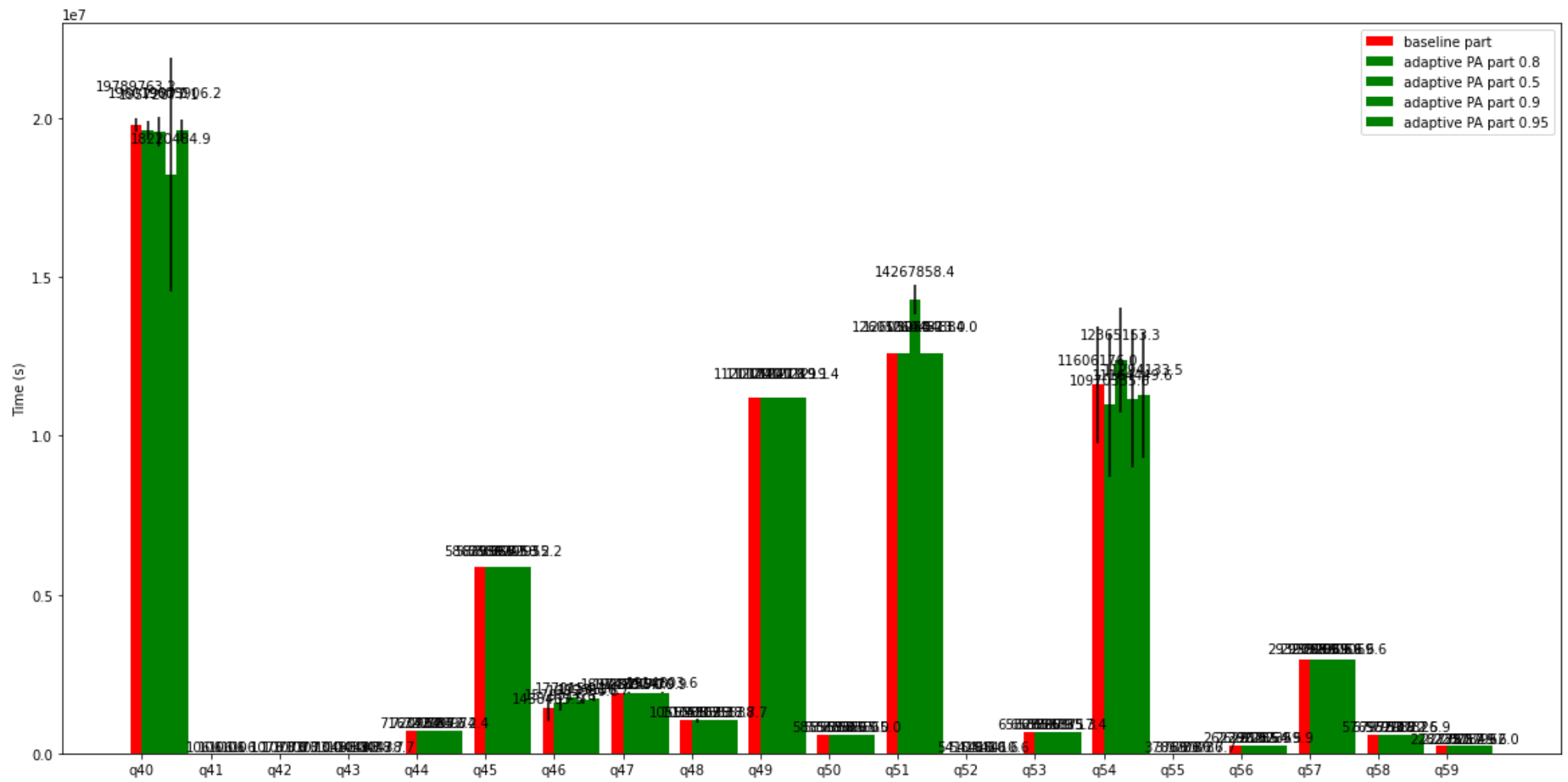|	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	% change base -> adaptive PA
0	presto/tpch: q01	2092.33	7.17	2092.11	5.88	2093.51	6.47	2096.53	6.66	2095.81	0.80	-0.01	0.06	0.20	
1	presto/tpch: q02	3994028.54	27.51	3994001.29	34.64	4231082.28	69871.82	3994058.60	7.16	3994042.94	33.14	-0.00	5.94	0.00	
7	presto/tpch: q08	18786295.75	6.68	18786288.11	8.07	18786291.23	4.45	18786293.16	7.45	18786297.47	6.89	-0.00	-0.00	-0.00	
8	presto/tpch: q09	435074053.93	8.81	435074050.63	4.05	435074041.90	17.71	435074051.85	11.05	435074043.13	7.72	-0.00	-0.00	-0.00	

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	% change base -> adaptive PA part 0.9	ch... base adap PA
4	presto/tpch: q05	75188890.79	7.30	75188890.59	7.82	75188888.21	5.05	75188885.93	6.35	75188890.07	8.77	-0.00	-0.00	-0.00	
13	presto/tpch: q14	10515972.95	0.00	10515972.95	0.00	10515972.95	0.00	10515972.95	0.00	10515972.95	0.00	0.00	0.00	0.00	
12	presto/tpch: q13	38017772.90	0.00	38017772.90	0.00	38017772.90	0.00	38017772.90	0.00	38017772.90	0.00	0.00	0.00	0.00	
11	presto/tpch: q12	43356439.80	0.00	43356439.80	0.00	43356439.80	0.00	43356439.80	0.00	43356439.80	0.00	0.00	0.00	0.00	
21	presto/tpch: q22	24823858.78	0.04	24823858.78	0.04	24823858.77	0.05	24823858.79	0.03	24823858.78	0.04	0.00	-0.00	0.00	
18	presto/tpch: q19	17289541.58	0.00	17289541.70	0.27	17289543.60	2.55	17289545.28	4.41	17289544.61	3.57	0.00	0.00	0.00	
20	presto/tpch: q21	617520632.87	16.72	617520642.53	14.22	617520637.91	7.01	617520634.51	11.67	617520635.46	16.15	0.00	0.00	0.00	
2	presto/tpch: q03	130827059.31	3.57	130827061.50	7.73	130827056.66	4.92	130827059.16	6.83	130827053.14	2.54	0.00	-0.00	-0.00	
15	presto/tpch: q16	27912100.86	1.75	27912101.64	2.15	27912101.85	3.23	27912103.72	4.86	27912101.60	2.38	0.00	0.00	0.00	
6	presto/tpch: q07	46409389.57	5.13	46409392.35	4.87	46409389.23	4.44	46409391.23	3.27	46409389.71	5.01	0.00	-0.00	0.00	
19	presto/tpch: q20	70099171.67	1.50	70115222.88	53.82	70115304.34	103.97	70115293.48	52.10	70115317.46	76.56	0.02	0.02	0.02	
16	presto/tpch: q17	340579753.60	3.63	340879068.17	719.79	340879063.12	623.30	340879369.46	611.80	340879346.47	395.09	0.09	0.09	0.09	
9	presto/tpch: q10	110212755.50	3229.48	110451269.91	1384.30	110452853.25	1260.94	110452652.64	4262.43	110451630.63	705.45	0.22	0.22	0.22	
17	presto/tpch: q18	550481765.67	7.28	554787252.82	4336.19	554784434.64	9014.42	554780611.89	10396.61	554781139.63	17101.77	0.78	0.78	0.78	
10	presto/tpch: q11	1449092.60	0.05	1467349.53	6354.16	1470830.77	11593.43	1468764.29	8857.68	1449092.62	0.06	1.26	1.50	1.36	
3	presto/tpch: q04	61482810.16	2.47	62328884.51	567.46	62328405.60	358.07	62329267.28	588.76	62329103.34	233.59	1.38	1.38	1.38	
14	presto/tpch: q15	21466816.08	0.00	21889617.47	72.57	21889653.90	63.74	21889581.97	57.41	21889580.03	15.35	1.97	1.97	1.97	
5	presto/tpch: q06	36.04	1.41	36.79	0.30	36.97	0.13	36.89	0.09	36.85	0.20	2.10	2.60	2.36	

```
count    22
mean      0
std       1
min      -0
25%       0
50%       0
75%       0
max       2
Name: % change, dtype: float64
count    22
mean      1
std       1
min      -0
25%      -0
50%       0
75%       1
max       6
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    22
mean      0
std       1
min      -0
25%       0
50%       0
75%       0
max       2
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    22
mean      0
std       1
min      -0
25%       0
50%       0
75%       0
max       2
Name: % change base -> adaptive PA part 0.95, dtype: float64
```
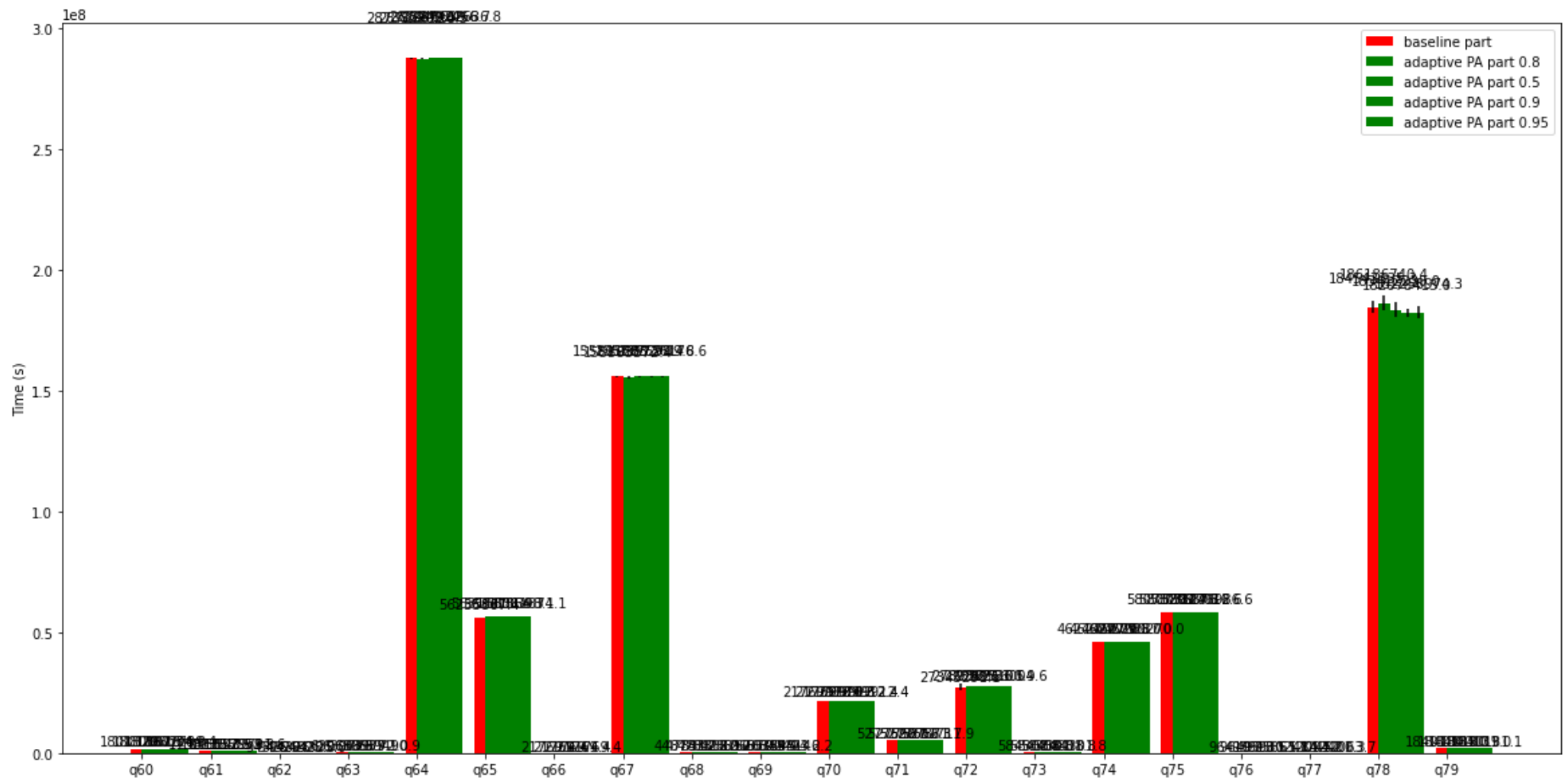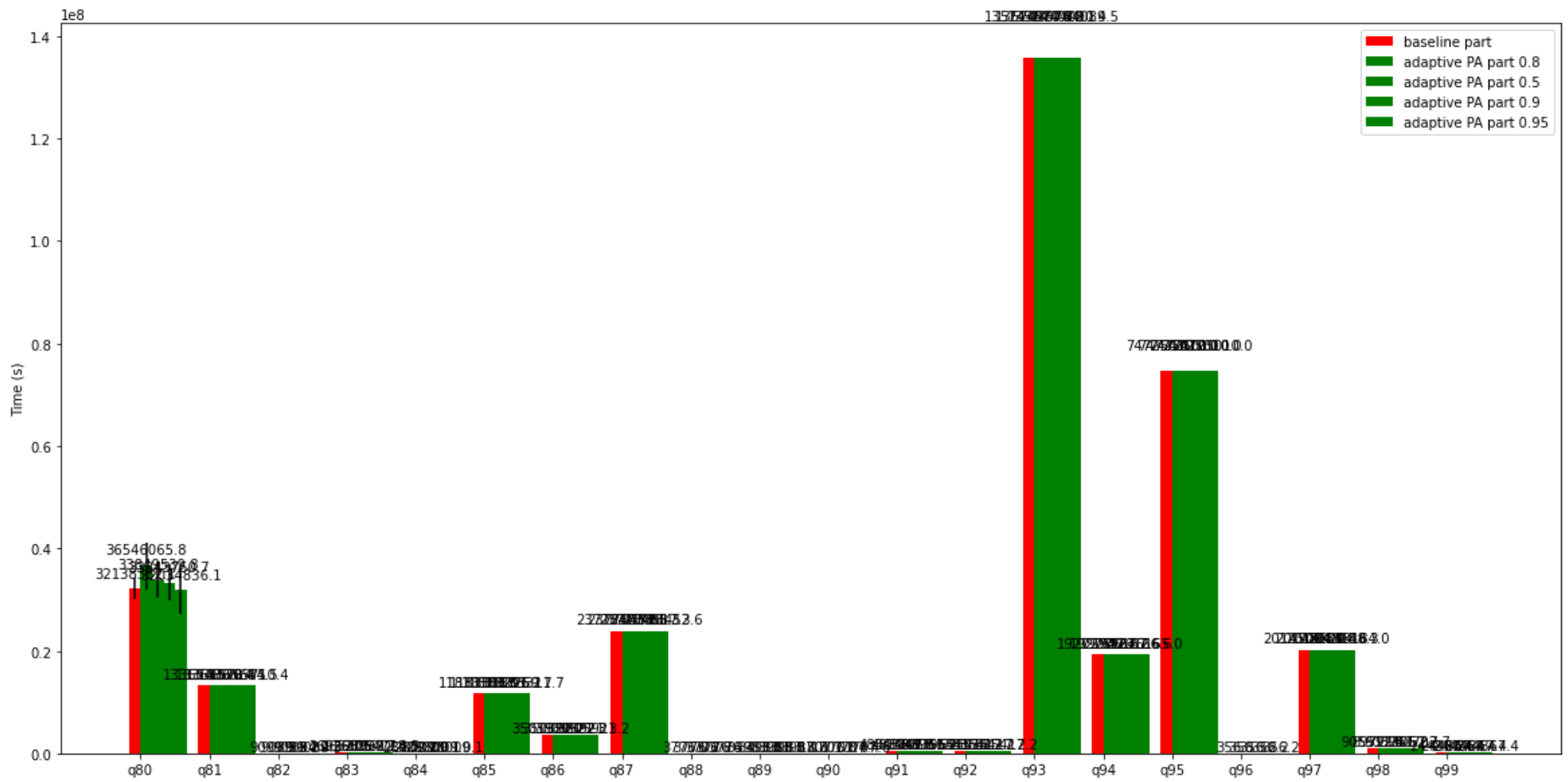
TPC-DS Comparison (Network)

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
53	presto/tpcds: q54	11606176.01	1825356.40	10970335.63	2261443.34	12365153.31	1652686.33	11164449.58	2152122.18	11294133.52	1989084.40	–5.48	6.54
26	presto/tpcds: q27	149914.34	22533.09	143490.22	18952.47	146697.61	32252.19	156335.73	16123.90	153123.26	23343.52	–4.29	–2.15
76	presto/tpcds: q77	12484.71	588.85	12094.21	599.24	12452.04	641.67	12401.32	721.60	12063.69	628.41	–3.13	–0.26
47	presto/tpcds: q48	1055538.69	0.00	1034317.28	51981.63	1055538.69	0.00	1055538.69	0.00	1055538.69	0.00	–2.01	0.00

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
82	presto/tpcds: q83	269598.45	5963.87	265305.92	2835.61	268997.71	3535.54	270612.41	5566.82	264718.48	3491.87	-1.59	-0.22
39	presto/tpcds: q40	19789763.18	205779.60	19601906.98	297494.35	19572877.08	473410.66	18220484.89	3672633.24	19605906.20	348697.01	-0.95	-1.10
97	presto/tpcds: q98	905512.39	8913.38	897215.58	6025.03	903251.17	3093.89	913052.68	4920.34	900702.66	7566.51	-0.92	-0.25
58	presto/tpcds: q59	228235.50	344.72	227761.19	526.22	228017.95	232.73	227849.65	412.34	227961.96	449.59	-0.21	-0.10
66	presto/tpcds: q67	155801285.24	161406.93	155583372.43	444241.66	155737599.38	168886.53	155832709.83	183498.76	155736176.56	311220.34	-0.14	-0.04
81	presto/tpcds: q82	9099.90	8.38	9089.79	10.32	9091.15	8.31	9094.36	9.46	9089.28	7.46	-0.11	-0.10
63	presto/tpcds: q64	287382302.38	97379.57	287266920.47	94139.12	287448639.60	67307.32	287492466.70	91574.52	287492636.78	83168.18	-0.04	0.02
13	presto/tpcds: q14	11020850.54	12366.56	11019347.10	24698.67	11010863.15	23861.99	11006544.51	16946.92	10995124.73	28791.24	-0.01	-0.09
22	presto/tpcds: q23	277231644.90	24659.74	277203451.28	57751.30	277223775.49	61574.95	277205709.09	67518.29	277238631.04	44463.43	-0.01	-0.00
68	presto/tpcds: q69	606379.40	812.50	606345.45	442.77	603345.30	7525.92	600494.25	15461.40	594146.24	19381.64	-0.01	-0.50
70	presto/tpcds: q71	5277698.97	133.07	5277537.62	296.86	5277652.33	443.45	5277871.72	298.17	5277711.88	373.67	-0.00	-0.00
95	presto/tpcds: q96	356.29	0.18	356.29	0.08	356.24	0.12	356.23	0.18	356.24	0.24	-0.00	-0.01
30	presto/tpcds: q31	13793822.82	562.09	13793614.86	488.17	13793789.83	305.45	13793371.16	461.38	13793909.15	486.36	-0.00	-0.00
25	presto/tpcds: q26	218961.89	0.00	218960.68	2.97	218961.89	0.00	218961.89	0.00	218961.89	0.00	-0.00	0.00
34	presto/tpcds: q35	4438054.03	144.01	4438031.42	370.96	4438046.37	418.54	4437886.88	324.75	4437800.48	220.45	-0.00	-0.00
37	presto/tpcds: q38	23778457.89	70.10	23778415.84	50.40	23778454.64	40.45	23778459.31	66.61	23778493.20	72.57	-0.00	-0.00
7	presto/tpcds: q08	2577103.18	12.10	2577100.19	20.73	2577105.50	10.87	2577086.52	17.12	2577103.89	21.72	-0.00	0.00
27	presto/tpcds: q28	3182922.65	6.59	3182919.47	15.16	3182923.15	3.73	3182921.69	11.34	3182923.28	9.91	-0.00	0.00

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
14	presto/tpcds: q15	2465658.67	6.39	2465656.67	1.62	2465647.67	10.04	2465638.28	10.43	2465648.03	10.33	-0.00	-0.00
83	presto/tpcds: q84	28009.05	0.00	28009.03	0.05	28009.05	0.00	28009.03	0.05	28009.05	0.00	-0.00	0.00
10	presto/tpcds: q11	62110108.90	62.41	62110071.26	38.70	62110060.23	28.75	62110066.33	43.74	62110104.84	56.35	-0.00	-0.00
1	presto/tpcds: q02	35132291.09	81.81	35132269.85	103.67	35132344.55	112.28	35132361.13	176.69	35132320.82	137.11	-0.00	0.00
17	presto/tpcds: q18	4751663.29	14.32	4751660.49	10.49	4751650.00	12.34	4751662.23	19.90	4751660.68	22.82	-0.00	-0.00
23	presto/tpcds: q24	61845820.65	29.88	61845815.51	22.78	61845811.14	39.83	61845819.37	43.44	61845793.13	22.13	-0.00	-0.00
24	presto/tpcds: q25	7227088.37	1.13	7227088.13	2.01	7227089.13	0.57	7227089.05	1.74	7227088.16	0.94	-0.00	0.00
92	presto/tpcds: q93	135744077.75	9.72	135744076.17	10.62	135744078.11	7.08	135744090.43	10.69	135744089.45	32.09	-0.00	0.00
69	presto/tpcds: q70	21769911.98	0.73	21769911.79	0.42	21769912.25	0.87	21769912.38	0.44	21769912.42	0.46	-0.00	0.00
33	presto/tpcds: q34	590015.13	0.00	590015.13	0.00	590015.13	0.00	590015.13	0.00	590015.13	0.00	-0.00	0.00
51	presto/tpcds: q52	5410.64	0.00	5410.64	0.00	5410.64	0.00	5410.64	0.00	5410.64	0.00	0.00	0.00
49	presto/tpcds: q50	585565.04	0.00	585565.04	0.00	585565.04	0.00	585565.04	0.00	585565.04	0.00	0.00	0.00
65	presto/tpcds: q66	21769.45	0.00	21769.45	0.00	21769.45	0.00	21769.45	0.00	21769.45	0.00	0.00	0.00
56	presto/tpcds: q57	2939069.58	0.00	2939069.58	0.00	2939069.58	0.00	2939069.58	0.00	2939069.58	0.00	0.00	0.00
61	presto/tpcds: q62	94325.05	0.00	94325.05	0.00	94325.05	0.00	94325.05	0.00	94325.05	0.00	0.00	0.00
88	presto/tpcds: q89	33983.81	0.00	33983.81	0.00	33983.81	0.00	33983.81	0.00	33983.81	0.00	0.00	0.00
91	presto/tpcds: q92	555417.19	0.00	555417.19	0.00	555417.19	0.00	555417.19	0.00	555417.19	0.00	0.00	0.00
94	presto/tpcds: q95	74725010.00	0.00	74725010.00	0.00	74725010.00	0.00	74725010.00	0.00	74725010.00	0.00	0.00	0.00

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	
54	presto/tpcds: q55	3786.73	0.00	3786.73	0.00	3786.73	0.00	3786.73	0.00	3786.73	0.00	0.00	0.00	
42	presto/tpcds: q43	10438.68	0.00	10438.68	0.00	10438.68	0.00	10438.68	0.00	10438.68	0.00	0.00	0.00	
98	presto/tpcds: q99	244867.35	0.00	244867.35	0.00	244867.35	0.00	244867.35	0.00	244867.35	0.00	0.00	0.00	
6	presto/tpcds: q07	376378.55	0.00	376378.55	0.00	376378.55	0.00	376378.55	0.00	376378.55	0.00	0.00	0.00	
41	presto/tpcds: q42	1072.95	0.00	1072.95	0.00	1072.95	0.00	1072.95	0.00	1072.95	0.00	0.00	0.00	
19	presto/tpcds: q20	361013.94	0.00	361013.94	0.00	361013.94	0.00	361013.01	2.29	361013.94	0.00	0.00	0.00	
21	presto/tpcds: q22	13415646.97	0.00	13415646.97	0.00	13415646.97	0.00	13415646.97	0.00	13415646.97	0.00	0.00	0.00	
2	presto/tpcds: q03	3663.83	0.00	3663.83	0.00	3663.83	0.00	3663.83	0.00	3663.83	0.00	0.00	0.00	
18	presto/tpcds: q19	1517565.07	0.00	1517565.07	0.00	1517565.07	0.00	1496784.59	50901.58	1517565.07	0.00	0.00	0.00	
11	presto/tpcds: q12	197885.88	0.00	197885.88	0.00	197885.88	0.00	197885.88	0.00	197885.88	0.00	0.00	0.00	
36	presto/tpcds: q37	2504.65	0.00	2504.65	0.00	2504.49	0.39	2504.65	0.00	2504.49	0.39	0.00	-0.01	
31	presto/tpcds: q32	677169.73	0.00	677169.73	0.00	677169.73	0.00	677169.73	0.00	677169.73	0.00	0.00	0.00	
40	presto/tpcds: q41	106.10	0.00	106.10	0.00	106.10	0.00	106.10	0.00	106.10	0.00	0.00	0.00	
48	presto/tpcds: q49	11201241.74	0.72	11201241.79	0.74	11201219.86	0.35	11201219.09	0.99	11201219.39	0.93	0.00	-0.00	
72	presto/tpcds: q73	584301.76	0.02	584301.77	0.01	584301.78	0.01	584301.76	0.02	584301.77	0.01	0.00	0.00	
85	presto/tpcds: q86	3505921.18	0.19	3505921.23	0.09	3505921.30	0.14	3505921.26	0.15	3505921.24	0.16	0.00	0.00	
3	presto/tpcds: q04	120397018.94	51.33	120397023.20	50.73	120397024.05	80.64	120396985.31	40.34	120396992.26	29.16	0.00	0.00	
73	presto/tpcds: q74	46270276.99	23.23	46270279.30	15.96	46270285.99	14.15	46270287.02	23.04	46270269.97	22.20	0.00	0.00	

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
78	presto/tpcds: q79	1840130.88	0.20	1840130.99	0.18	1840130.93	0.27	1840131.02	0.23	1840131.12	0.29	0.00	0.00
16	presto/tpcds: q17	9754491.17	1.73	9754492.47	1.41	9754490.28	4.57	9754491.76	0.49	9754491.83	1.44	0.00	-0.00
12	presto/tpcds: q13	1138730.14	2.10	1138730.43	1.29	1138731.26	1.64	1138732.42	1.19	1138731.33	1.94	0.00	0.00
35	presto/tpcds: q36	869597.74	37.80	869598.06	48.75	869585.63	37.28	869568.20	39.59	869629.66	67.00	0.00	-0.00
5	presto/tpcds: q06	2433923.78	7.48	2433926.21	14.40	2433920.39	0.85	2433920.37	0.91	2433930.20	12.87	0.00	-0.00
86	presto/tpcds: q87	23778463.90	68.81	23778488.79	96.95	23778485.29	51.16	23778517.25	64.84	23778452.61	79.25	0.00	0.00
84	presto/tpcds: q85	11833306.00	58.49	11833318.59	13.32	11833291.24	82.81	11833259.74	68.57	11833311.69	60.99	0.00	-0.00
50	presto/tpcds: q51	12605014.46	153.64	12605034.72	91.72	14267858.37	463266.87	12604812.95	193.90	12604883.96	136.80	0.00	13.19
44	presto/tpcds: q45	5862939.67	17.88	5862961.48	23.53	5862947.30	25.25	5862968.20	15.12	5862955.19	17.32	0.00	0.00
80	presto/tpcds: q81	13365483.80	81.48	13365570.37	89.56	13365714.54	161.03	13365684.51	120.72	13365710.42	169.91	0.00	0.00
29	presto/tpcds: q30	3076142.71	71.54	3076197.00	46.85	3076153.10	39.56	3076203.37	21.17	3076186.10	30.08	0.00	0.00
38	presto/tpcds: q39	2357582.51	6.93	2357626.77	9.04	2357632.13	4.66	2357629.87	3.23	2357632.33	3.42	0.00	0.00
20	presto/tpcds: q21	159703.78	0.00	159706.95	0.00	159706.95	0.00	159706.95	0.00	159706.95	0.00	0.00	0.00
90	presto/tpcds: q91	483938.71	12.02	483949.84	16.68	483968.55	25.11	483961.17	28.12	483964.27	18.59	0.00	0.01
28	presto/tpcds: q29	4229598.00	5.85	4229698.84	101.89	4229602.36	8.85	4229604.68	5.07	4229662.88	93.09	0.00	0.00
87	presto/tpcds: q88	3776.01	0.68	3776.18	0.84	3776.82	1.00	3776.37	0.86	3776.42	0.83	0.00	0.02
62	presto/tpcds: q63	639688.48	182.74	639729.93	108.73	639637.06	247.82	639772.04	86.33	639490.90	298.34	0.01	-0.01
74	presto/tpcds: q75	58073299.73	160.48	58077124.76	194.96	58076876.21	99.94	58077016.56	55.96	58076986.64	83.85	0.01	0.01

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
32	presto/tpcds: q33	2100081.61	470.16	2100288.42	760.10	2100400.59	435.67	2100272.83	498.64	2100160.75	638.19	0.01	0.02
8	presto/tpcds: q09	2309.69	3.65	2309.95	2.14	2306.56	1.76	2309.75	3.20	2309.14	3.09	0.01	-0.14
15	presto/tpcds: q16	38489939.29	0.77	38494820.09	3.13	38494820.63	3.62	38494822.79	4.55	38494822.33	3.99	0.01	0.01
89	presto/tpcds: q90	1707.62	0.41	1707.84	0.14	1707.39	0.43	1707.38	0.43	1707.63	0.39	0.01	-0.01
96	presto/tpcds: q97	20145094.95	0.00	20148188.77	37.49	20148204.60	66.65	20148148.29	92.74	20148184.03	47.39	0.02	0.02
93	presto/tpcds: q94	19272740.18	0.00	19276164.24	2.45	19276167.59	1.36	19276166.63	3.20	19276164.98	2.87	0.02	0.02
59	presto/tpcds: q60	1801320.69	9908.72	1801867.32	5066.05	1800615.60	4703.76	1798004.92	5478.68	1802799.38	3601.27	0.03	-0.04
52	presto/tpcds: q53	658285.03	617.76	658526.91	985.54	658979.47	732.52	658335.33	590.60	658717.39	1009.82	0.04	0.11
75	presto/tpcds: q76	96410.25	124.36	96497.81	37.50	95913.47	55.11	95930.52	156.04	95861.10	100.15	0.09	-0.52
64	presto/tpcds: q65	56235867.39	0.00	56311806.64	1450.28	56311864.29	2270.49	56311398.11	1098.46	56311874.07	1944.92	0.14	0.14
55	presto/tpcds: q56	262390.61	1262.48	262913.54	842.88	262785.85	1327.04	262664.46	1271.32	262359.87	1279.96	0.20	0.15
9	presto/tpcds: q10	309837.58	1285.05	310630.66	15.44	310391.64	607.91	310322.50	740.39	309894.26	1237.33	0.26	0.18
46	presto/tpcds: q47	1897470.94	0.00	1903154.99	13923.02	1897470.94	0.00	1897470.94	0.00	1914803.58	28376.07	0.30	0.00
0	presto/tpcds: q01	6382501.82	1.72	6413371.85	2175.45	6410093.78	3128.51	6410722.73	1816.04	6410986.61	1990.82	0.48	0.43
57	presto/tpcds: q58	576952.00	1651.06	579783.78	1956.70	579719.74	2092.51	579822.50	1720.36	577326.89	1418.81	0.49	0.48
43	presto/tpcds: q44	716343.85	9.29	720964.46	23.46	720984.59	20.80	720972.21	28.22	720974.36	11.41	0.65	0.65
77	presto/tpcds: q78	184543335.26	2365020.95	186186740.42	2971243.24	183412229.96	3212827.16	182078412.96	1764448.75	182258974.33	2413064.98	0.89	-0.61
60	presto/tpcds: q61	1138335.33	26681.04	1155557.87	0.00	1035405.95	164892.90	1155557.87	0.00	1129791.64	63114.11	1.51	-9.04

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
71	presto/tpcds: q72	27345291.14	1250996.19	27893626.57	3846.45	27892531.46	6636.41	27895100.92	5859.42	27856004.63	40.24	2.01	2.00
4	presto/tpcds: q05	39333299.88	1252074.98	40143325.20	1370645.23	40878728.86	1911179.24	38390631.08	4147935.69	39944605.84	1126108.53	2.06	3.93
67	presto/tpcds: q68	448783.23	72330.96	478312.77	0.57	478312.85	0.72	478312.70	0.63	478312.52	0.61	6.58	6.58
45	presto/tpcds: q46	1438463.55	419967.39	1579517.55	226338.60	1770154.11	1.45	1685996.56	119818.14	1723136.71	89336.93	9.81	23.06
79	presto/tpcds: q80	32138382.11	2038904.01	36546065.82	4500415.80	33849539.83	3593092.68	33343750.72	3514068.88	32034836.12	4712986.39	13.71	5.32

```
count    99
mean      0
std       2
min      -5
25%      -0
50%       0
75%       0
max      14
Name: % change, dtype: float64
count    99
mean      0
std       3
min      -9
25%      -0
50%       0
75%       0
max      23
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    99
mean      0
std       2
min      -8
25%      -0
50%       0
75%       0
max      17
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    99
mean      0
std       2
min      -3
25%      -0
50%       0
```
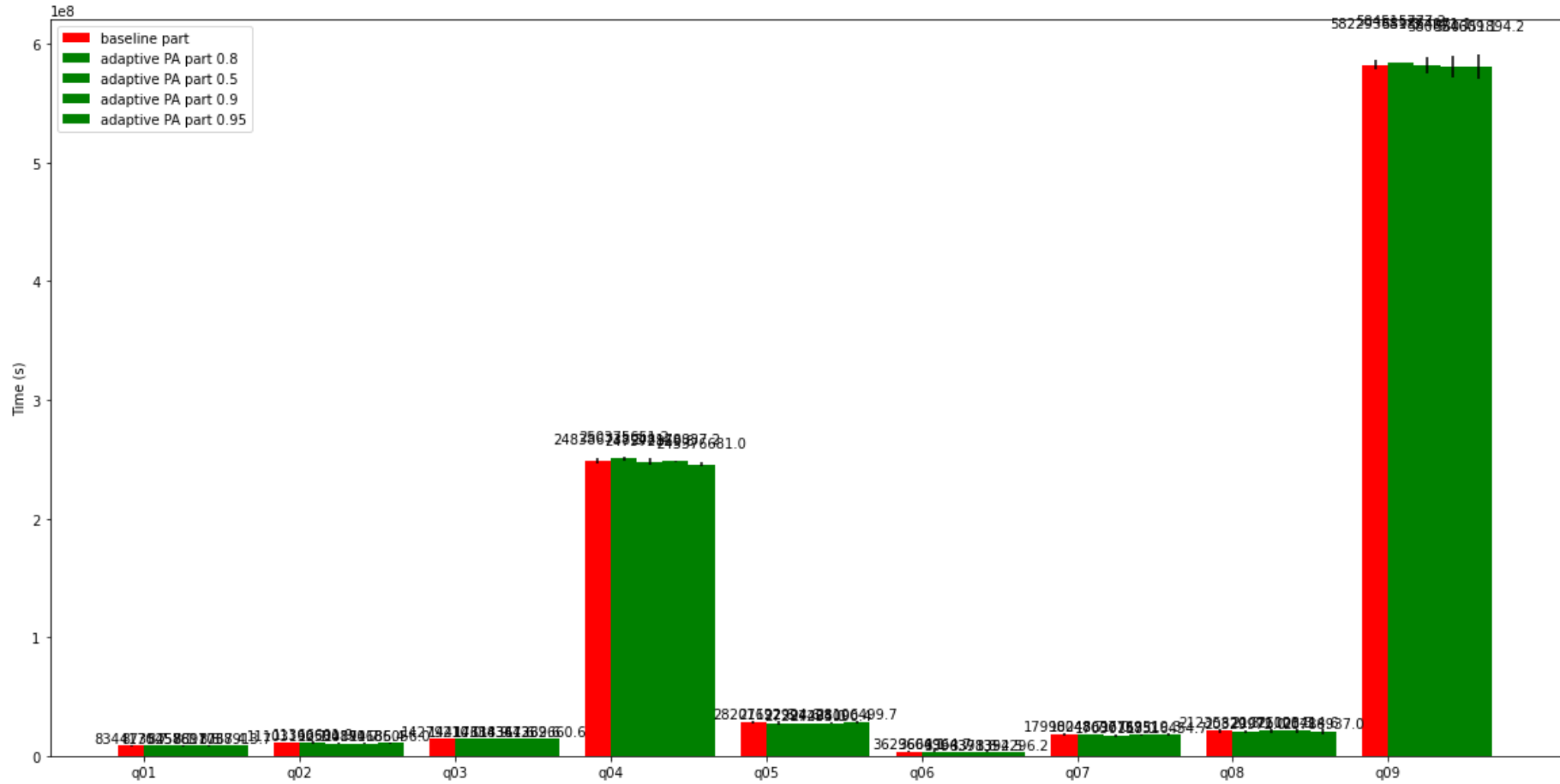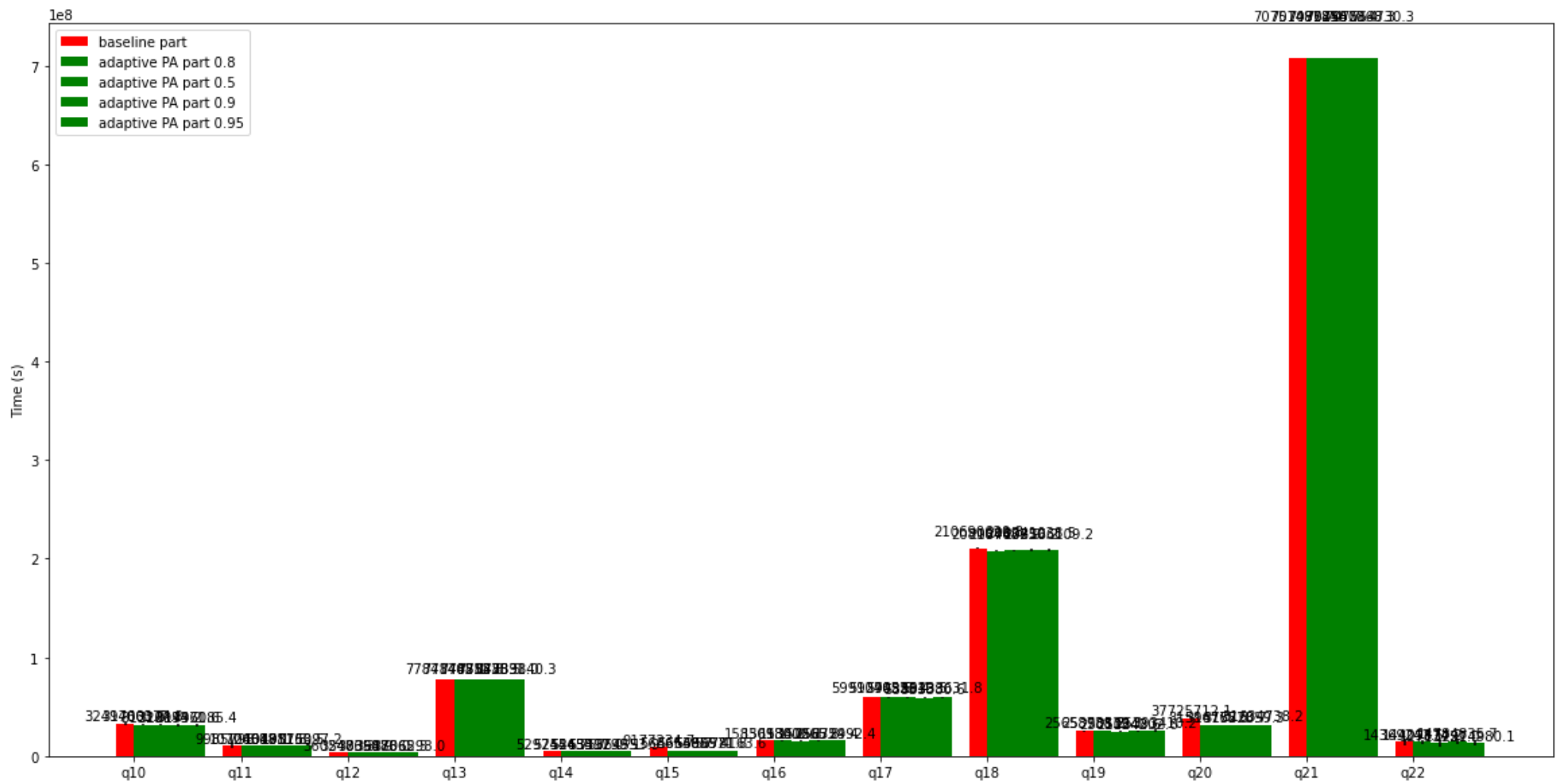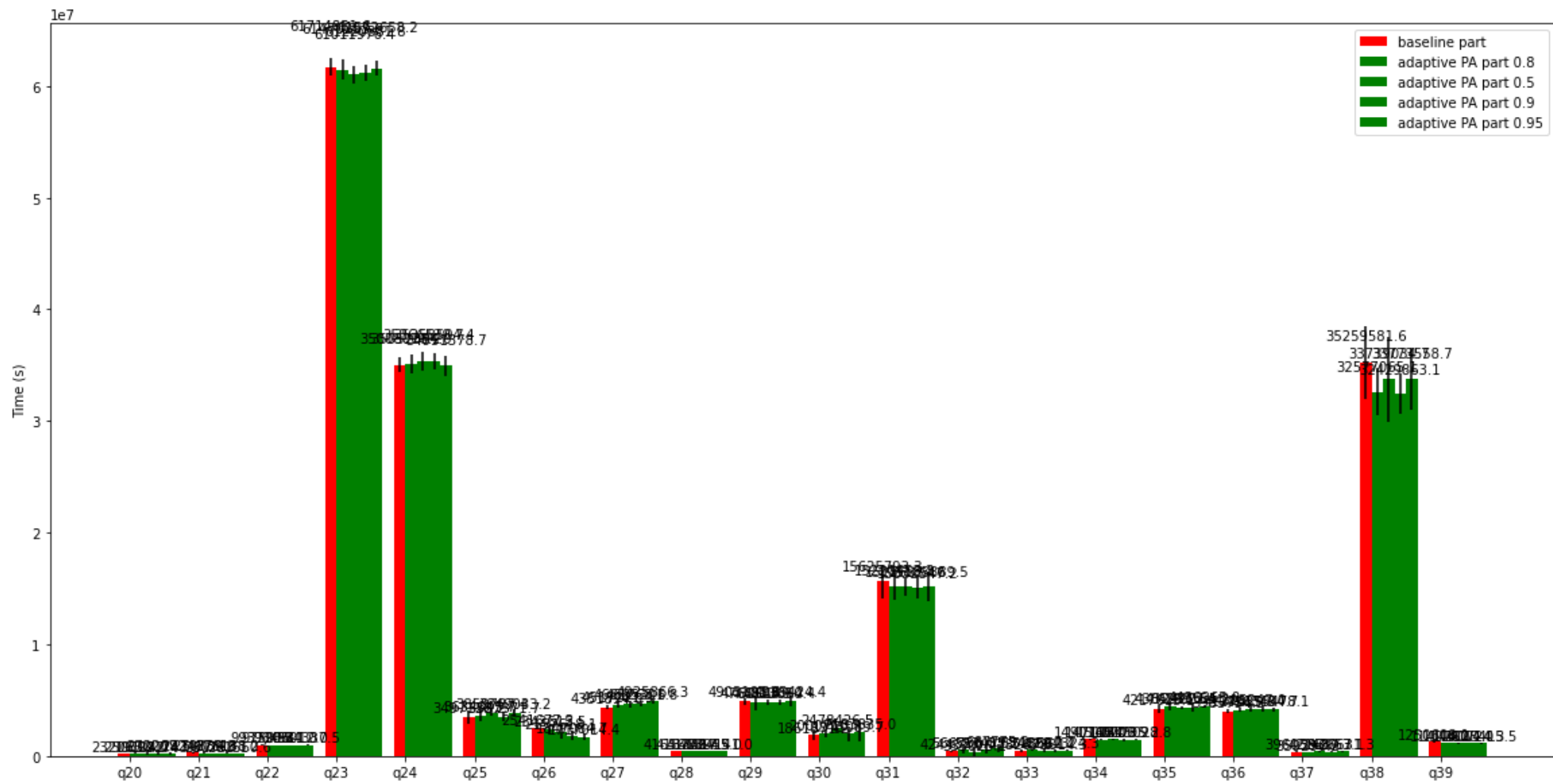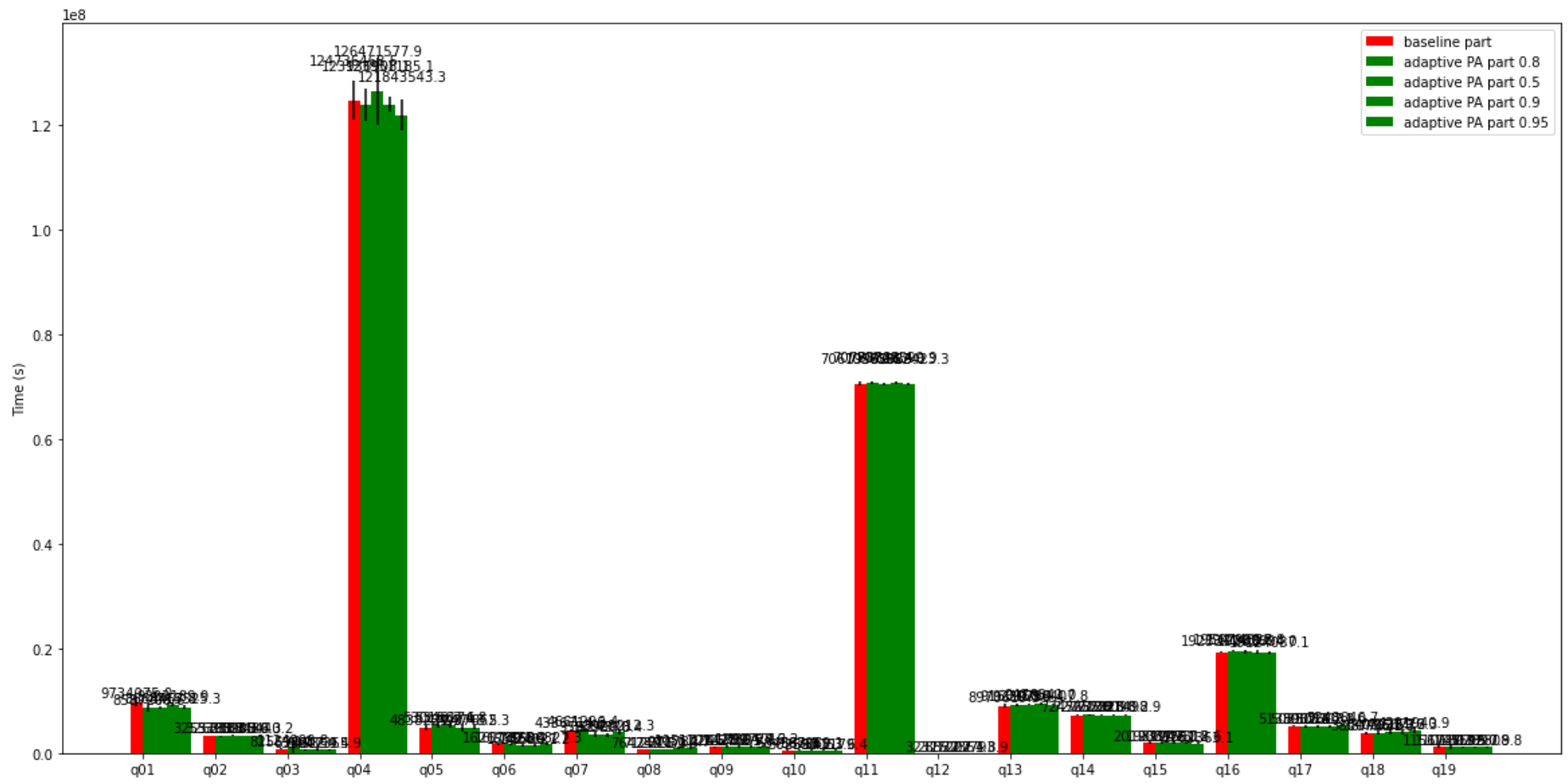
TPC-H Comparison (Peak memory)

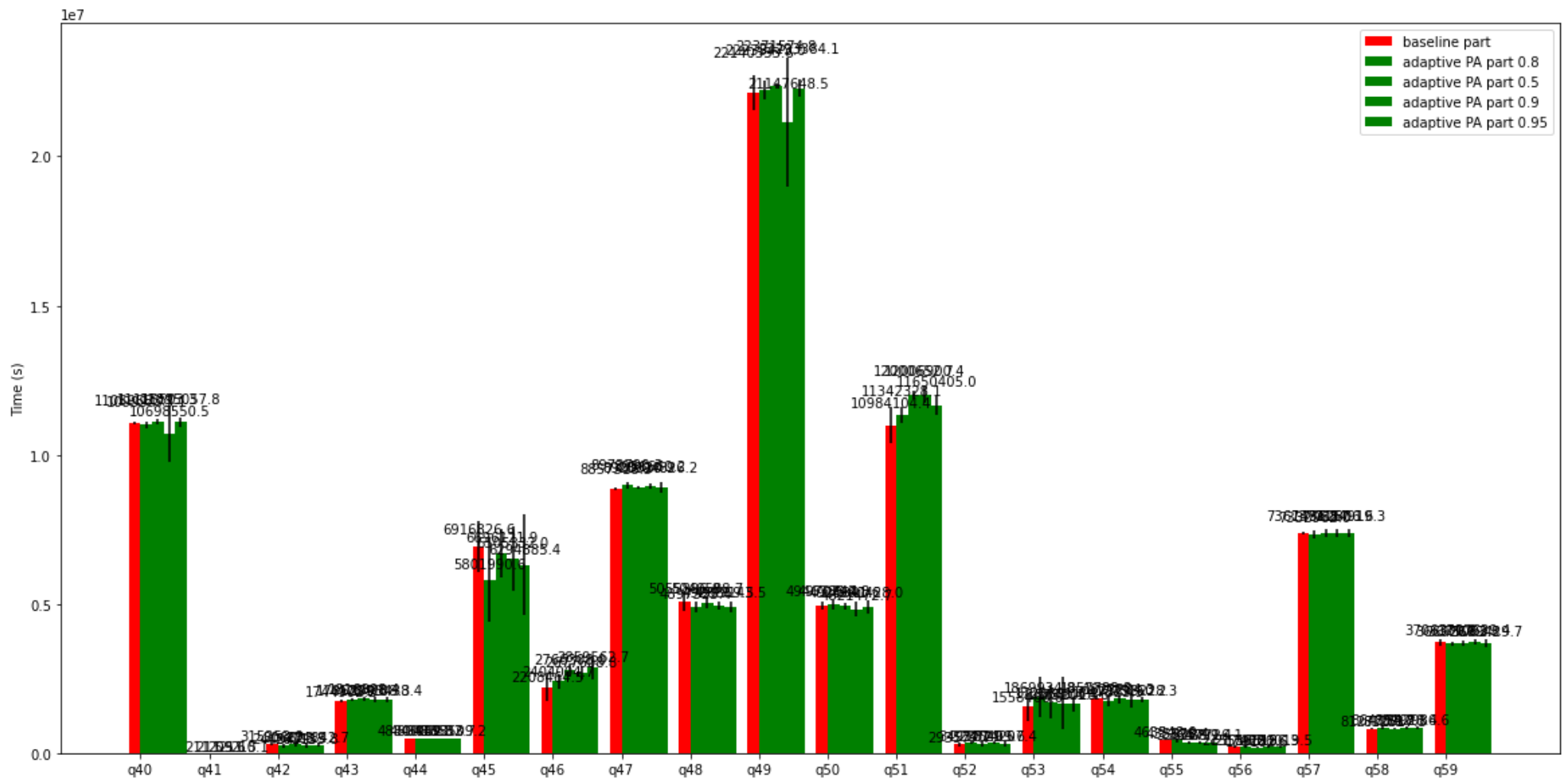|	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	a
14	presto/tpch: q15	9177234.71	152018.71	5686538.68	41091.46	5664659.42	47886.03	5690571.77	61079.94	5678163.62	24784.30	-38.04	-38.27	
19	presto/tpch: q20	37725712.14	228305.72	31596778.28	235844.02	31476278.71	71480.72	31572059.32	147223.66	31634738.16	205914.64	-16.25	-16.57	
7	presto/tpch: q08	21235820.27	1633369.91	20329971.98	1177897.61	21076028.33	1559412.56	21101414.64	1615147.25	20788937.05	2370602.49	-4.27	-0.75	
9	presto/tpch: q10	32494663.62	1099915.68	31700177.82	531514.89	31320994.22	708249.57	31217371.65	983149.50	31496085.40	1033911.34	-2.44	-3.61	

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	a
4	presto/tpch: q05	28201122.58	1200359.68	27692924.62	1302618.91	27294404.97	362540.59	27234090.44	624923.34	28106499.70	1265985.34	-1.80	-3.22	
11	presto/tpch: q12	3602476.29	85977.15	3540354.93	165468.17	3839876.05	237483.72	3618365.50	274713.10	3706297.95	176000.24	-1.72	6.59	
15	presto/tpch: q16	15830980.22	348171.70	15613006.31	216707.69	15341265.75	114927.69	15758354.40	403777.57	15672992.43	177590.00	-1.38	-3.09	
17	presto/tpch: q18	210690620.85	845533.98	208107687.93	929055.79	208447250.24	1062015.83	208741038.52	929671.29	208366109.22	1409110.83	-1.23	-1.06	
16	presto/tpch: q17	59910405.60	583255.71	59270521.43	446475.82	59435619.47	619528.20	58833380.64	361810.25	59433631.82	688955.71	-1.07	-0.79	
18	presto/tpch: q19	25658738.80	683545.80	25398539.29	326211.13	25011242.61	1037971.21	25034302.64	970739.19	25393410.16	1224268.05	-1.01	-2.52	
13	presto/tpch: q14	5297444.74	53727.95	5255455.70	74859.31	5263417.04	58881.39	5339299.15	80665.35	5364553.92	127055.09	-0.79	-0.64	
5	presto/tpch: q06	3629666.10	155204.19	3604964.67	443314.63	3396371.83	275722.73	3398394.50	434400.14	3352296.21	298839.22	-0.68	-6.43	
20	presto/tpch: q21	707514818.37	32500.05	707497256.73	48994.16	707544473.39	27580.10	707550868.26	35074.08	707564730.30	13122.00	-0.00	0.00	
12	presto/tpch: q13	77841402.15	45964.03	77844812.83	67043.15	77855838.46	53401.19	77847531.01	57914.88	77839840.33	54803.74	0.00	0.02	
21	presto/tpch: q22	14369247.47	3780197.40	14409874.23	2131066.89	12713721.03	4073681.58	14784835.74	2754894.70	12974980.14	2658213.89	0.28	-11.52	
6	presto/tpch: q07	17990248.65	774427.87	18048695.97	534942.04	17030158.00	1056423.41	17769519.33	604209.08	17516454.66	1098340.22	0.32	-5.34	
8	presto/tpch: q09	582293659.28	4160156.98	584515777.24	100787.72	581864971.12	6621868.40	580654609.06	9434805.79	580351894.22	10485474.84	0.38	-0.07	
3	presto/tpch: q04	248386738.25	2017430.12	250375651.18	1437990.74	247572869.77	2718291.18	248178837.17	853034.33	245376681.03	1949301.31	0.80	-0.33	
2	presto/tpch: q03	14279210.00	212917.11	14417618.94	114042.94	14334361.61	170170.02	14347239.63	197538.39	14362660.58	140429.08	0.97	0.39	
1	presto/tpch: q02	11103192.10	215789.92	11366601.93	828449.69	10534874.65	800523.27	10191185.41	523458.32	10686056.03	411966.60	2.37	-5.12	
0	presto/tpch: q01	8344170.65	247486.01	8735257.06	264498.98	8458891.82	436478.51	8617067.43	465528.47	8738913.72	375092.62	4.69	1.37	
10	presto/tpch: q11	9985797.96	1551651.99	10726618.08	403617.45	10434711.82	188847.76	10498163.45	272860.83	10575097.21	395762.44	7.42	4.50	

```
count     22
mean      -2
std        9
min      -38
25%       -2
50%       -1
75%        0
max        7
Name: % change, dtype: float64
count     22
mean      -4
std        9
min      -38
25%       -5
50%       -1
75%       -0
max        7
Name: % change base -> adaptive PA part 0.5, dtype: float64
count     22
mean      -3
std        9
min      -38
25%       -3
50%       -1
75%        0
max        5
Name: % change base -> adaptive PA part 0.9, dtype: float64
count     22
mean      -3
std        9
min      -38
25%       -3
50%       -1
75%        0
max        6
Name: % change base -> adaptive PA part 0.95, dtype: float64
```
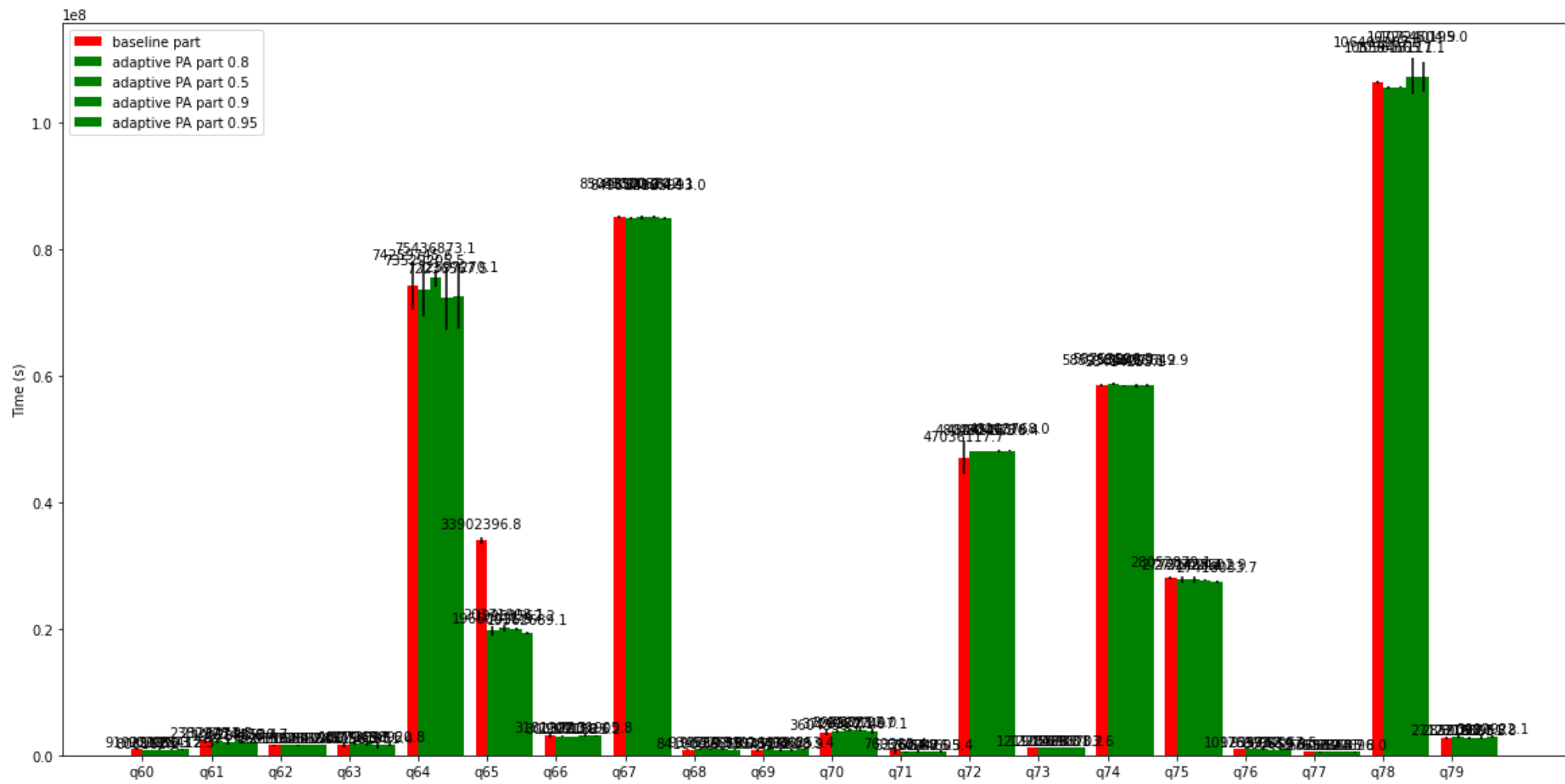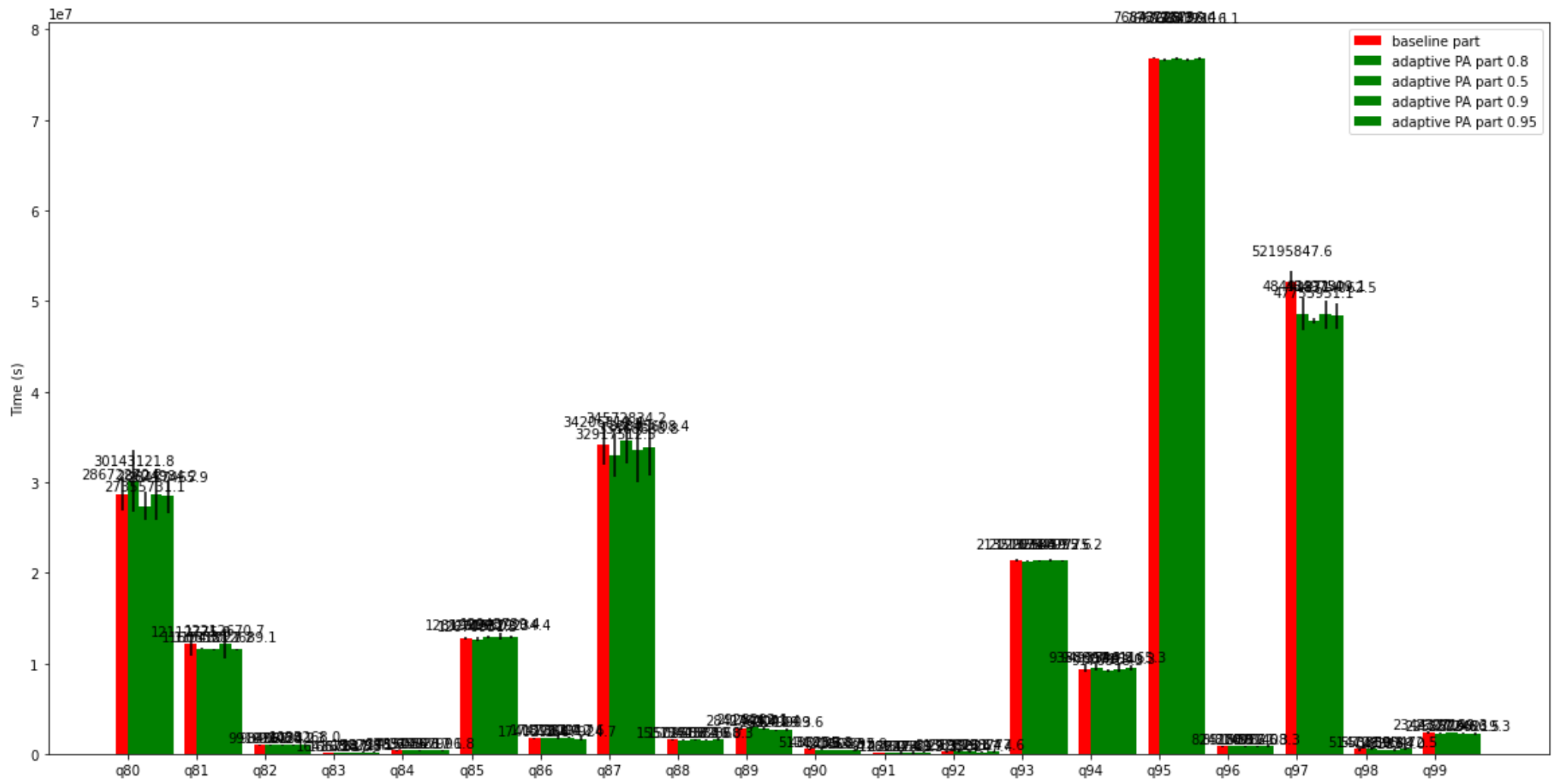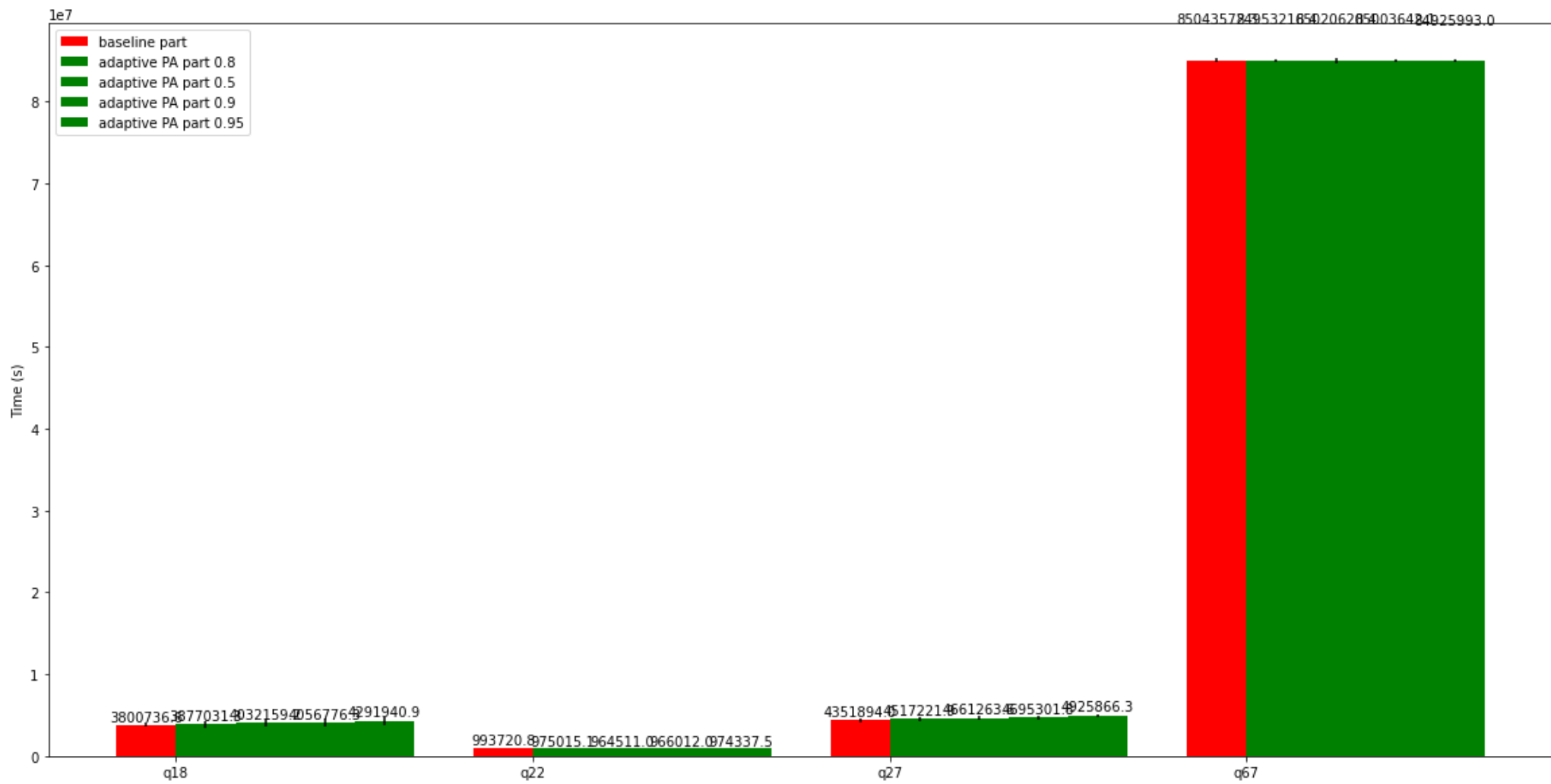
TPC-DS Comparison (Peak memory)

Time (s), 1e7

Top values (q67): 8504357.8 / 8495321.6 / 8502062.8 / 8500364.8 / 8495993.0

q18: 3800736.8 / 3877031.4 / 4032159.4 / 4056776.4 / 4291940.9

q22: 993720.8 / 975015.1 / 964511.0 / 966012.0 / 974337.5

q27: 4351894.4 / 4517221.4 / 4661263.4 / 4695301.4 / 4925866.3

Legend:
- baseline part
- adaptive PA part 0.8
- adaptive PA part 0.5
- adaptive PA part 0.9
- adaptive PA part 0.95

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
64	presto/tpcds: q65	33902396.84	554095.64	19660011.49	732207.36	20171908.07	535323.12	19958562.23	307295.94	19362689.07	219958.89	-42.01	-40.50
70	presto/tpcds: q71	769383.36	537013.03	537564.73	137851.71	554588.53	154548.77	600426.35	76648.63	574605.37	186637.78	-30.13	-27.92
41	presto/tpcds: q42	315253.95	70802.34	244947.28	78076.22	306628.25	77704.09	261155.81	94528.53	274842.72	63578.48	-22.30	-2.74
44	presto/tpcds: q45	6916826.55	844285.71	5801990.60	1406223.83	6696121.92	798481.82	6505331.96	1088281.00	6294885.39	1687175.36	-16.12	-3.19

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
9	presto/tpcds: q10	584383.50	96094.17	502893.23	104408.66	567969.12	158251.71	560063.56	48475.32	541179.36	136728.37	-13.94	-2.81
11	presto/tpcds: q12	32315.16	11439.38	28377.71	6561.26	27202.44	7179.96	32361.76	12685.36	27793.87	5694.62	-12.18	-15.82
59	presto/tpcds: q60	919221.83	83536.65	808162.25	71099.74	902086.35	103856.17	909903.17	84291.16	925412.31	36068.28	-12.08	-1.86
0	presto/tpcds: q01	9734074.99	782829.04	8587208.61	585765.73	8664467.84	231395.02	9202189.91	400251.85	8715525.34	411265.44	-11.78	-10.99
91	presto/tpcds: q92	313339.62	144755.05	277873.59	190560.02	198221.39	109066.48	138247.38	57069.56	198777.65	116959.91	-11.32	-36.74
36	presto/tpcds: q37	396058.26	86113.07	359296.24	24673.25	421637.73	70190.06	393963.10	103797.06	426631.28	48074.15	-9.28	6.46
38	presto/tpcds: q39	1250608.05	29445.66	1140760.14	10063.73	1144013.95	23417.61	1140724.31	10592.00	1128415.50	21759.44	-8.78	-8.52
25	presto/tpcds: q26	2541677.19	175546.19	2343615.54	387619.11	2157618.08	629876.67	1847084.73	470085.10	1717014.38	345353.07	-7.79	-15.11
37	presto/tpcds: q38	35259581.56	3264238.70	32577065.11	2111051.40	33739034.74	3766636.74	32429863.12	1790029.54	33773558.67	2757417.02	-7.61	-4.31
20	presto/tpcds: q21	292487.40	31385.92	270889.30	25069.38	251738.13	18924.31	276188.24	24759.69	261560.61	11092.24	-7.38	-13.93
96	presto/tpcds: q97	52195847.58	1095894.16	48491371.40	1778850.24	47755951.12	300253.00	48497509.12	1564366.33	48374062.47	1424855.97	-7.10	-8.51
7	presto/tpcds: q08	764249.45	43156.21	712210.98	47353.20	737331.30	53693.90	971784.74	301008.36	1051126.46	370544.51	-6.81	-3.52
54	presto/tpcds: q55	463547.99	37909.50	435578.36	69748.26	358288.10	57240.83	364799.38	50303.20	357726.05	70616.06	-6.03	-22.71
53	presto/tpcds: q54	1857788.76	75100.91	1747323.90	159272.86	1823284.30	161084.48	1775150.21	252847.30	1798228.29	105201.57	-5.95	-1.86
65	presto/tpcds: q66	3181322.28	385457.55	3003790.56	103027.60	2999109.56	37938.26	3071323.21	201576.08	3131905.77	114525.76	-5.58	-5.73
89	presto/tpcds: q90	513093.29	71562.26	486255.82	48068.74	421064.33	46851.87	415037.47	68756.45	453392.86	44367.23	-5.23	-17.94
18	presto/tpcds: q19	1156737.70	241566.57	1106303.48	265217.58	1145599.66	90989.73	1192890.91	136839.03	1192808.82	161565.49	-4.36	-0.96
80	presto/tpcds: q81	12112774.95	1350210.78	11608321.65	62664.68	11543021.20	57116.70	12212670.71	1627345.26	11512689.13	90456.20	-4.16	-4.70

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5	
98	presto/tpcds: q99	2344377.58	85484.99	2255870.62	87808.18	2327149.33	42727.67	2272486.50	132047.42	2236219.31	149446.99	-3.78	-0.73	
86	presto/tpcds: q87	34206810.39	2285629.87	32917512.46	2376616.11	34572834.22	2515203.90	33568638.76	3526621.83	33845608.38	3081640.42	-3.77	1.07	
75	presto/tpcds: q76	1012399.52	88865.58	976372.28	60079.31	955767.04	120683.98	868659.77	143210.89	934067.54	143591.43	-3.56	-5.59	
47	presto/tpcds: q48	5055896.79	282987.94	4897323.37	185806.80	5040588.73	201902.20	4928859.54	134256.65	4909143.46	183116.58	-3.14	-0.30	
87	presto/tpcds: q88	1557271.84	86158.90	1509538.44	81402.99	1544377.84	28068.96	1515335.96	57642.22	1572868.30	123302.47	-3.07	-0.83	
28	presto/tpcds: q29	4903193.61	304270.84	4765548.92	643672.91	4800149.38	213483.70	4813660.38	237002.95	4935424.36	436502.28	-2.81	-2.10	
30	presto/tpcds: q31	15625793.34	1503391.86	15220453.32	1198148.94	15156934.60	785194.96	15032547.15	986860.51	15185889.55	1279464.74	-2.59	-3.00	
60	presto/tpcds: q61	2382973.17	412578.77	2326471.49	362169.45	1997386.64	421477.96	2274438.44	164934.33	2145530.71	118998.66	-2.37	-16.18	
21	presto/tpcds: q22	993720.79	40714.42	975015.12	20183.99	964511.01	14845.54	966011.97	11965.02	974337.54	30967.27	-1.88	-2.94	
14	presto/tpcds: q15	2019337.63	262242.02	1989247.02	170784.31	2009551.79	181246.51	1909512.56	247591.64	1762363.14	115174.83	-1.49	-0.48	
33	presto/tpcds: q34	1490159.97	55835.93	1471184.31	59187.02	1510700.86	41244.85	1451795.16	91320.57	1475028.76	89390.63	-1.27	1.38	
84	presto/tpcds: q85	12819996.68	148449.39	12670931.30	206110.50	12905501.97	98691.64	12945739.45	395952.89	12829234.36	154545.65	-1.16	0.67	
74	presto/tpcds: q75	28052879.07	154534.17	27731438.35	552497.52	27760242.24	468715.25	27727501.90	157105.92	27418033.75	173143.56	-1.15	-1.04	
16	presto/tpcds: q17	5138907.63	178831.47	5085014.74	215494.53	5052611.02	304055.47	5181131.03	235562.16	5248646.70	224746.52	-1.05	-1.68	
58	presto/tpcds: q59	3706330.80	113726.97	3669287.21	60661.40	3675063.83	94688.97	3717639.43	81715.29	3669429.67	134867.21	-1.00	-0.84	
63	presto/tpcds: q64	74259745.58	3803928.31	73529205.49	4103473.29	75436873.12	1376599.25	72236567.47	5063866.08	72597270.12	5255901.79	-0.98	1.59	
81	presto/tpcds: q82	991676.63	86188.79	984067.42	93194.14	992420.24	60373.37	961341.33	77200.29	1035267.99	48165.72	-0.77	0.07	
77	presto/tpcds: q78	106401286.96	149859.35	105594665.08	185891.88	105618117.06	98423.11	107264504.88	2915652.78	107240195.04	2420437.11	-0.76	-0.74	

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
3	presto/tpcds: q04	124736468.49	3664786.45	123936908.06	3086764.81	126471577.92	6365787.38	123951185.07	1349727.06	121843543.32	2954495.42	-0.64	1.39
5	presto/tpcds: q06	1626789.57	240301.05	1617371.44	250093.50	1535599.12	223678.98	1424027.16	212758.40	1686827.32	271923.10	-0.58	-5.61
39	presto/tpcds: q40	11059583.72	55264.67	10999473.13	116036.32	11115503.29	75160.72	10698550.47	961568.51	11095057.75	144883.57	-0.54	0.51
22	presto/tpcds: q23	61714851.60	791250.02	61470293.57	909370.87	61011976.41	747347.95	61220881.77	746857.03	61572658.23	679641.44	-0.40	-1.14
56	presto/tpcds: q57	7361491.28	42421.32	7332962.02	126853.82	7372167.07	148457.12	7362806.59	125651.75	7384919.26	140179.05	-0.39	0.15
92	presto/tpcds: q93	21351671.34	138455.33	21291904.67	116238.38	21355459.22	80209.34	21347995.64	137219.45	21307775.23	117821.31	-0.28	0.02
94	presto/tpcds: q95	76843228.31	83466.09	76693747.94	167585.65	76775796.42	140308.99	76651930.06	104160.72	76732116.09	133997.02	-0.19	-0.09
66	presto/tpcds: q67	85043572.31	222466.02	84953216.43	194415.96	85020620.43	287896.84	85003642.09	215525.83	84925992.96	179900.95	-0.11	-0.03
40	presto/tpcds: q41	211.49	0.00	211.49	0.00	209.58	4.67	211.49	0.00	210.07	3.06	0.00	-0.90
23	presto/tpcds: q24	35008076.19	662595.21	35052384.02	843081.77	35366539.73	834531.75	35358504.36	765810.73	34951378.74	870802.10	0.13	1.02
1	presto/tpcds: q02	3255788.31	58526.53	3262187.33	126551.13	3395908.58	75942.64	3318480.34	40912.96	3285440.18	103233.27	0.20	4.30
10	presto/tpcds: q11	70619952.55	417099.35	70785838.42	192515.16	70565865.05	294362.30	70749599.92	310141.42	70552423.28	308189.99	0.23	-0.08
43	presto/tpcds: q44	488000.89	640.73	489411.26	2451.36	489521.26	1684.36	488582.70	749.76	488509.23	1020.26	0.29	0.31
13	presto/tpcds: q14	7245635.77	108349.94	7270130.05	57431.67	7252327.95	96297.90	7228098.21	50617.77	7221498.91	86920.49	0.34	0.09
73	presto/tpcds: q74	58523369.13	246583.51	58753596.32	187619.49	58414255.13	172026.02	58450778.24	306042.06	58496649.95	248178.39	0.39	-0.19
85	presto/tpcds: q86	1740292.36	80040.23	1747301.41	54997.47	1812007.74	226067.45	1762912.64	78976.42	1667924.70	220700.44	0.40	4.12
48	presto/tpcds: q49	22140353.64	579836.98	22235473.00	306510.01	22371574.81	102599.17	21147648.52	2155649.61	22293384.14	289950.08	0.43	1.04
49	presto/tpcds: q50	4946385.37	149877.41	4970747.84	157106.35	4925841.56	126194.10	4821472.66	255289.66	4900428.03	213152.36	0.49	-0.42

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
27	presto/tpcds: q28	416566.63	4648.63	418779.39	7533.80	413517.50	2600.72	418955.02	3616.16	424141.05	13259.76	0.53	-0.73
72	presto/tpcds: q73	1219056.58	18957.71	1228469.26	13846.57	1203737.80	35175.86	1209001.16	29528.40	1208703.55	26637.08	0.77	-1.26
55	presto/tpcds: q56	215556.54	33739.43	217462.84	36905.19	178182.62	16596.40	196196.34	42690.73	206019.48	53569.94	0.88	-17.34
93	presto/tpcds: q94	9388807.43	375477.40	9493596.95	364575.14	9176818.26	116897.39	9371540.28	336296.71	9441165.28	266155.73	1.12	-2.26
46	presto/tpcds: q47	8857318.30	40207.17	8973790.31	127205.76	8920320.87	46309.38	8956660.25	95699.55	8904826.20	168017.48	1.31	0.71
82	presto/tpcds: q83	164363.26	12011.06	166724.79	23611.84	157517.52	12537.85	186298.05	32108.62	187175.72	32863.63	1.44	-4.17
61	presto/tpcds: q62	1605104.38	59782.73	1630589.21	17103.89	1592692.04	46176.23	1625328.57	32778.74	1607200.50	27650.38	1.59	-0.77
76	presto/tpcds: q77	557636.19	48758.43	566689.83	78955.93	606844.73	77010.80	573635.82	45204.83	520695.99	42399.84	1.62	8.82
15	presto/tpcds: q16	19233774.83	131266.34	19562930.76	138073.24	19414822.78	414104.98	19283893.98	413651.79	19124037.09	208826.66	1.71	0.94
17	presto/tpcds: q18	3800736.57	264424.21	3877031.25	439824.96	4032159.24	427319.21	4056776.33	479998.10	4291940.89	478695.19	2.01	6.09
71	presto/tpcds: q72	47036117.72	2675365.91	48023246.28	46543.62	48045181.84	89633.15	48045776.37	128679.57	48103768.05	154220.03	2.10	2.15
12	presto/tpcds: q13	8970619.25	358241.62	9160358.42	273538.70	9230780.37	116212.71	9476340.97	225768.76	9296407.76	169787.07	2.12	2.90
42	presto/tpcds: q43	1744902.18	40743.97	1786209.82	54970.20	1816808.39	81241.28	1784108.27	87864.13	1795438.36	80122.11	2.37	4.12
88	presto/tpcds: q89	2841444.71	124457.37	2928202.07	86145.28	2760041.42	145210.24	2612199.31	53947.19	2649909.63	208854.80	3.05	-2.86
50	presto/tpcds: q51	10984104.38	601404.64	11342328.12	276001.45	12000652.71	146558.09	12006900.38	267085.39	11650405.00	295568.30	3.26	9.25
95	presto/tpcds: q96	824278.60	46391.00	851508.58	51967.59	814977.58	32584.60	807821.35	88519.03	881408.28	115532.68	3.30	-1.13
69	presto/tpcds: q70	3604359.74	403468.28	3728977.11	217933.94	3935323.61	235792.60	4012102.03	317411.88	3807497.11	349897.09	3.46	9.18
35	presto/tpcds: q36	3983754.33	191825.67	4127685.87	164077.84	4215247.03	249687.10	4163484.73	245846.67	4155478.15	190389.42	3.61	5.81

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
26	presto/tpcds: q27	4351893.99	189812.82	4517221.93	242761.58	4661263.56	292322.28	4695301.84	268540.24	4925866.30	222436.49	3.80	7.11
24	presto/tpcds: q25	3497128.17	600769.63	3634645.66	509647.21	3859787.39	312797.42	3527371.71	439464.72	3849033.17	381069.70	3.93	10.37
34	presto/tpcds: q35	4217613.14	379107.73	4385236.58	320871.37	4324222.50	145465.91	4299154.18	344101.98	4436365.04	168083.02	3.97	2.53
78	presto/tpcds: q79	2712716.22	227495.80	2850033.80	213000.72	2807807.76	227475.79	2790951.82	295851.80	3002922.15	188432.00	5.06	3.51
79	presto/tpcds: q80	28672270.16	1835530.70	30143121.77	3463192.63	27355731.12	1526479.41	28624984.20	2807734.68	28457465.86	1889742.98	5.13	-4.59
57	presto/tpcds: q58	812770.32	32804.22	864355.78	75393.91	812517.26	33340.39	859928.36	48447.48	842986.60	60061.25	6.35	-0.03
29	presto/tpcds: q30	1861871.17	483464.59	2000710.72	365188.53	2478426.53	410033.07	1975089.68	624494.44	2183834.99	833624.57	7.46	33.11
6	presto/tpcds: q07	4336714.35	256782.88	4661296.40	321249.33	3582999.81	450326.47	3514370.45	390415.83	3928212.27	512465.80	7.48	-17.38
97	presto/tpcds: q98	514728.01	182473.20	553859.82	182949.39	416183.36	64369.16	433367.99	196896.34	595472.51	118009.22	7.60	-19.14
19	presto/tpcds: q20	232065.74	45358.45	250598.97	82541.74	191042.43	125518.27	272207.49	119855.49	221743.60	137251.36	7.99	-17.68
45	presto/tpcds: q46	2208464.54	469242.81	2404004.67	232420.49	2766308.02	195364.37	2677608.75	220983.07	2859562.74	385414.16	8.85	25.26
83	presto/tpcds: q84	378914.43	51528.64	415055.63	51543.27	365523.67	23921.17	409317.12	31937.60	367996.82	35641.03	9.54	-3.53
4	presto/tpcds: q05	4838229.92	426047.62	5301567.57	531285.70	5346174.82	641253.36	4724748.49	770265.23	4937652.26	386233.11	9.58	10.50
62	presto/tpcds: q63	1645198.90	372648.11	1817945.86	259754.80	1773597.58	401102.50	1561951.41	520347.65	1698920.80	298204.91	10.50	7.80
67	presto/tpcds: q68	841009.80	121248.10	934534.91	34822.68	932193.58	96842.68	937559.02	94407.70	858586.31	84459.80	11.12	10.84
32	presto/tpcds: q33	478267.64	96161.65	534829.10	123129.25	518662.22	130523.87	478014.31	113742.07	504324.25	95630.46	11.83	8.45
8	presto/tpcds: q09	1103428.61	160691.61	1246782.52	202101.69	1227681.80	218227.39	1299727.15	233998.93	1304016.16	193219.56	12.99	11.26
51	presto/tpcds: q52	293577.75	64217.87	349377.85	58433.67	323721.46	88126.72	346409.63	40398.85	314207.39	81755.04	19.01	10.27

	query	baseline part mean	baseline part std.dev	adaptive PA part 0.8 mean	adaptive PA part 0.8 std.dev	adaptive PA part 0.5 mean	adaptive PA part 0.5 std.dev	adaptive PA part 0.9 mean	adaptive PA part 0.9 std.dev	adaptive PA part 0.95 mean	adaptive PA part 0.95 std.dev	% change	% change base -> adaptive PA part 0.5
52	presto/tpcds: q53	1558466.02	471318.04	1869934.81	665364.05	1723891.59	553235.97	1675201.42	883968.17	1642018.62	233880.35	19.99	10.61
90	presto/tpcds: q91	91222.00	5526.23	116924.38	59865.42	158474.93	127955.58	130563.93	115354.73	128023.25	69295.26	28.18	73.72
31	presto/tpcds: q32	424437.04	77913.53	566735.99	356281.05	353025.10	346488.82	553455.21	355276.06	667775.17	362749.12	33.53	-16.83
68	presto/tpcds: q69	755451.44	212655.29	1016639.79	309088.52	784720.81	169983.92	796608.89	122726.24	986253.43	128696.33	34.57	3.87
2	presto/tpcds: q03	825596.04	200578.20	1124999.77	1060285.35	636902.85	158348.03	649354.39	236228.19	647355.95	137491.19	36.27	-22.86

```
count    99
mean      0
std      11
min     -42
25%      -3
50%       0
75%       3
max      36
Name: % change, dtype: float64
count    99
mean     -1
std      13
min     -41
25%      -4
50%      -1
75%       2
max      74
Name: % change base -> adaptive PA part 0.5, dtype: float64
count    99
mean     -1
std      12
min     -56
25%      -4
50%      -0
75%       2
max      43
Name: % change base -> adaptive PA part 0.9, dtype: float64
count    99
mean      0
std      13
min     -43
25%      -4
50%      -0
```

```
75%            4
max           57
Name: % change base -> adaptive PA part 0.95, dtype: float64
```