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 unpart	747	1,761	95,183	229,728	2,351	3,898	2,072,617,819	1,124,989,571	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	adaptive PA unpart	725	1,718	91,735	223,699	2,351	3,899	2,062,639,552	1,107,165,842	-2.93	-2.43	-3.62	-2.62	0.02	0.03	-0.48	-1.58

FAILED QUERIES

baseline unpart

benchmark	query	mean_duration	std_dev

adaptive PA unpart

benchmark	query	mean_duration	std_dev

TPC-H Comparison (DURATION)
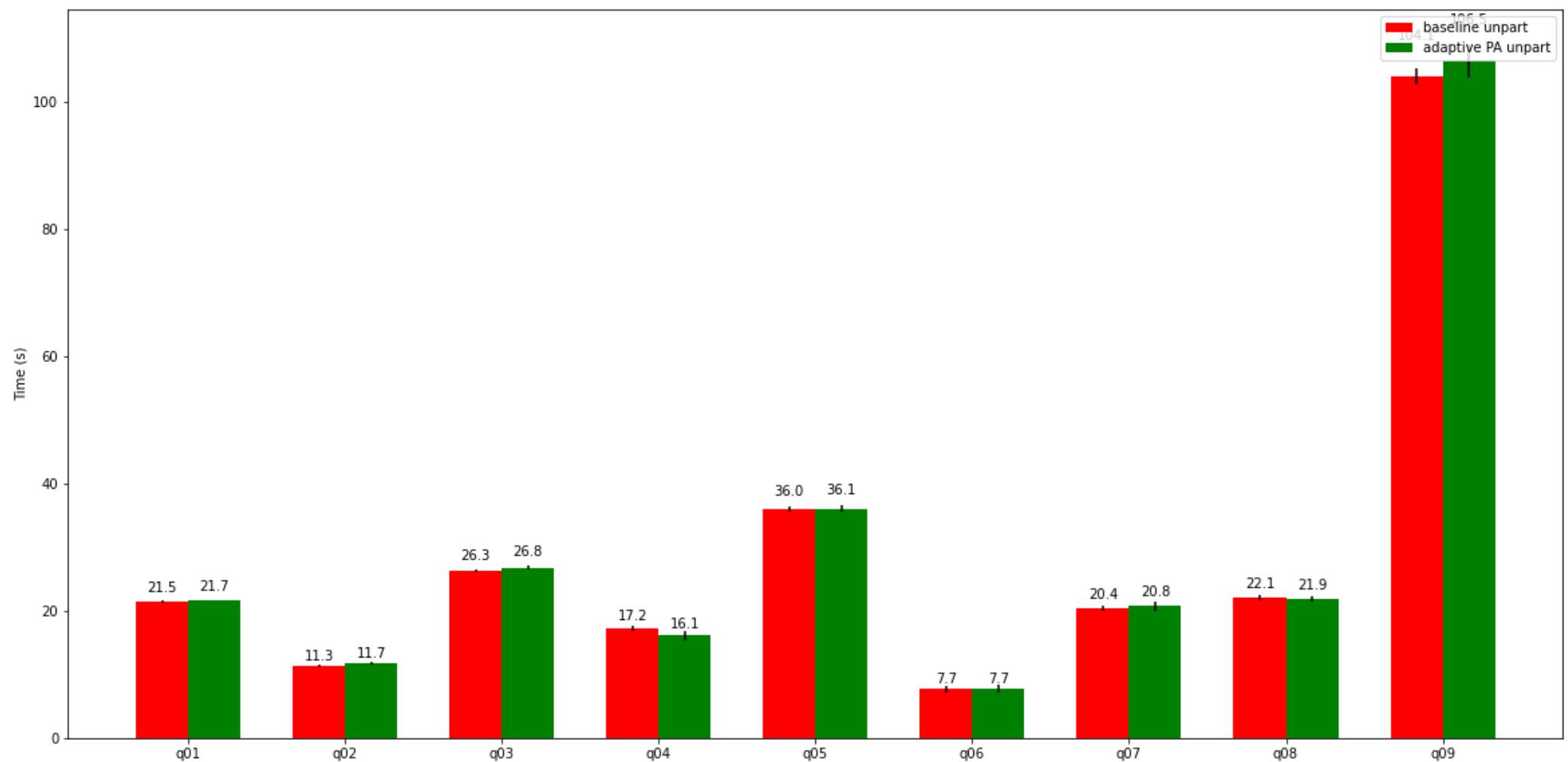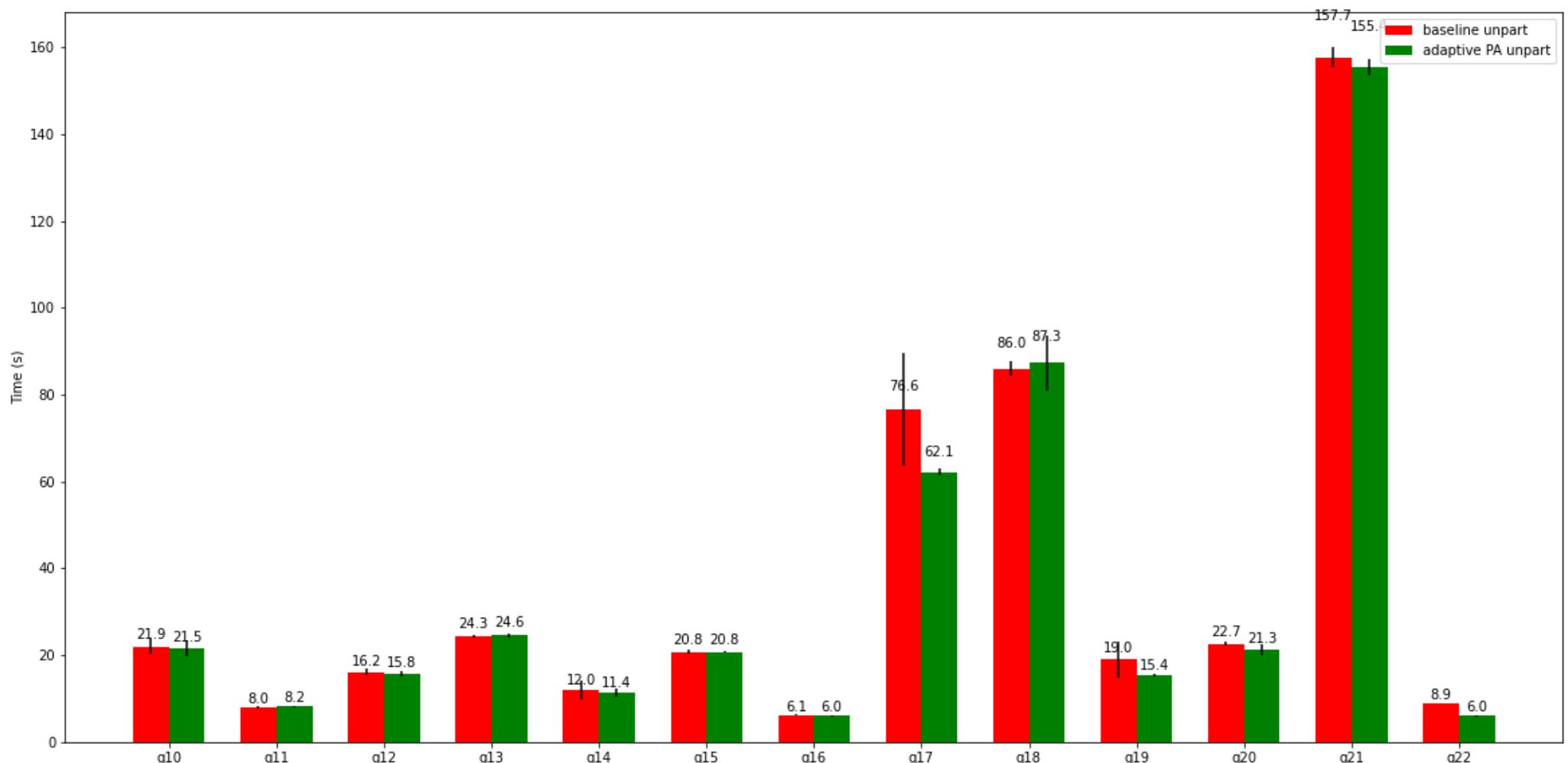
|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
21	presto/tpch: q22	8.93	0.13	6.04	0.10	-32.36	1.44	1.64	0.00000
18	presto/tpch: q19	19.01	4.22	15.37	0.20	-19.18	22.22	1.31	0.06088
16	presto/tpch: q17	76.60	13.11	62.11	0.77	-18.92	17.12	1.24	0.02221
3	presto/tpch: q04	17.25	0.33	16.11	0.80	-6.60	1.92	5.00	0.00944
19	presto/tpch: q20	22.66	0.58	21.29	1.18	-6.03	2.56	5.56	0.02952
13	presto/tpch: q14	11.97	2.06	11.36	0.94	-5.11	17.17	8.23	0.52190

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
9	presto/tpch: q10	21.95	1.64	21.46	1.83	-2.20	7.49	8.52	0.64080
15	presto/tpch: q16	6.13	0.14	6.00	0.12	-2.16	2.32	2.02	0.11243
11	presto/tpch: q12	16.16	0.86	15.82	0.61	-2.08	5.31	3.87	0.45317
20	presto/tpch: q21	157.71	2.34	155.40	1.77	-1.46	1.48	1.14	0.08252
7	presto/tpch: q08	22.10	0.43	21.90	0.35	-0.92	1.94	1.59	0.38953
14	presto/tpch: q15	20.79	0.58	20.79	0.21	0.04	2.78	1.02	0.97676
5	presto/tpch: q06	7.71	0.55	7.73	0.64	0.23	7.14	8.34	0.96027
4	presto/tpch: q05	35.98	0.41	36.09	0.47	0.30	1.13	1.30	0.68148
0	presto/tpch: q01	21.50	0.19	21.66	0.06	0.72	0.88	0.28	0.08625
12	presto/tpch: q13	24.34	0.43	24.55	0.40	0.88	1.76	1.63	0.39048
17	presto/tpch: q18	85.97	1.71	87.32	6.34	1.56	1.99	7.26	0.62765
2	presto/tpch: q03	26.33	0.26	26.77	0.30	1.66	0.98	1.12	0.02179
6	presto/tpch: q07	20.36	0.43	20.75	0.76	1.90	2.09	3.65	0.30107
8	presto/tpch: q09	104.13	1.32	106.54	2.59	2.32	1.27	2.43	0.06921
10	presto/tpch: q11	7.96	0.24	8.18	0.08	2.74	2.99	1.00	0.05968
1	presto/tpch: q02	11.29	0.25	11.70	0.22	3.61	2.19	1.86	0.01265

```
count    22
mean     -4
std       9
min     -32
25%      -4
50%      -0
75%       1
max       4
Name: % change, dtype: float64
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TPC-DS Comparison (DURATION)
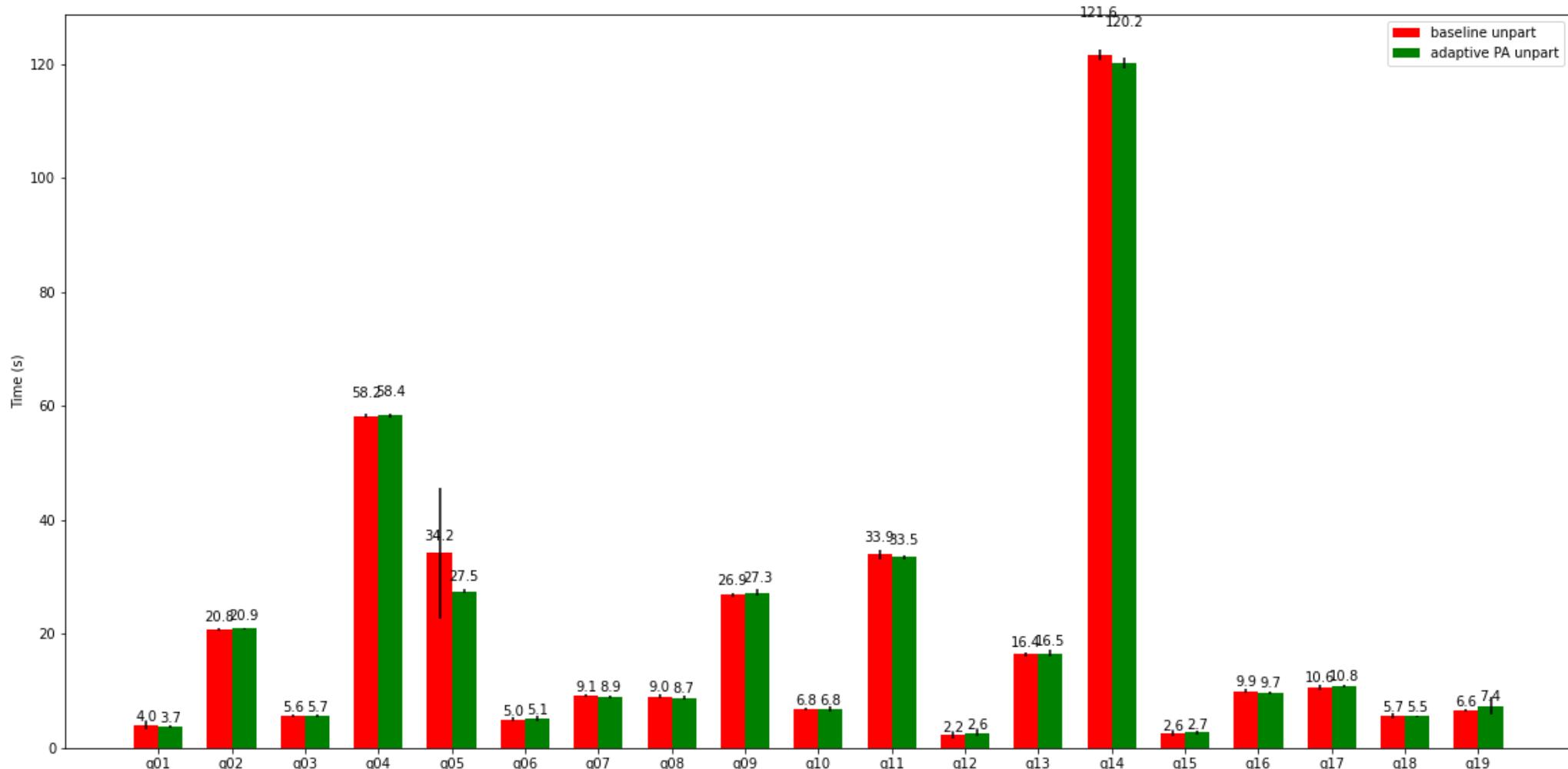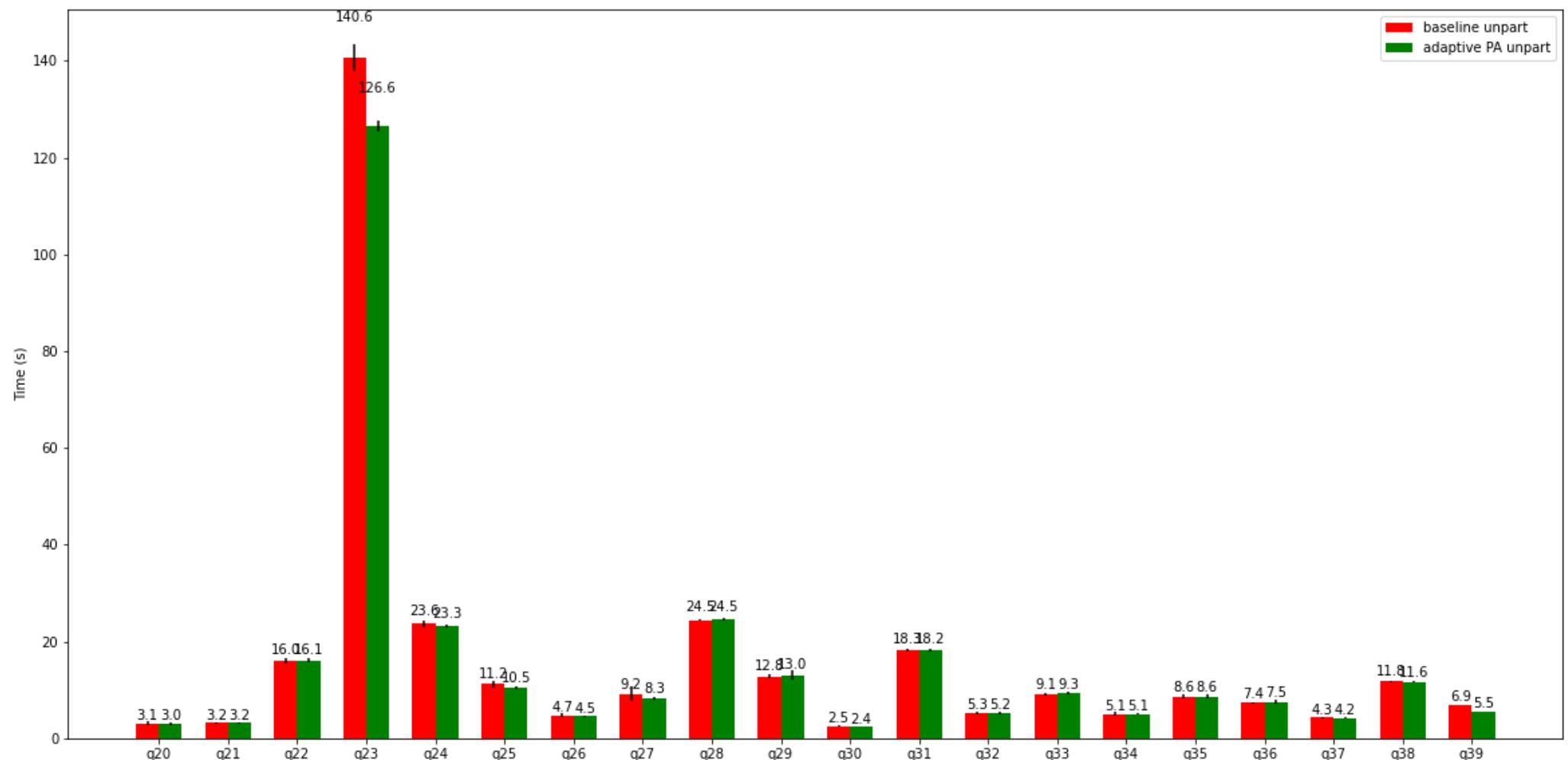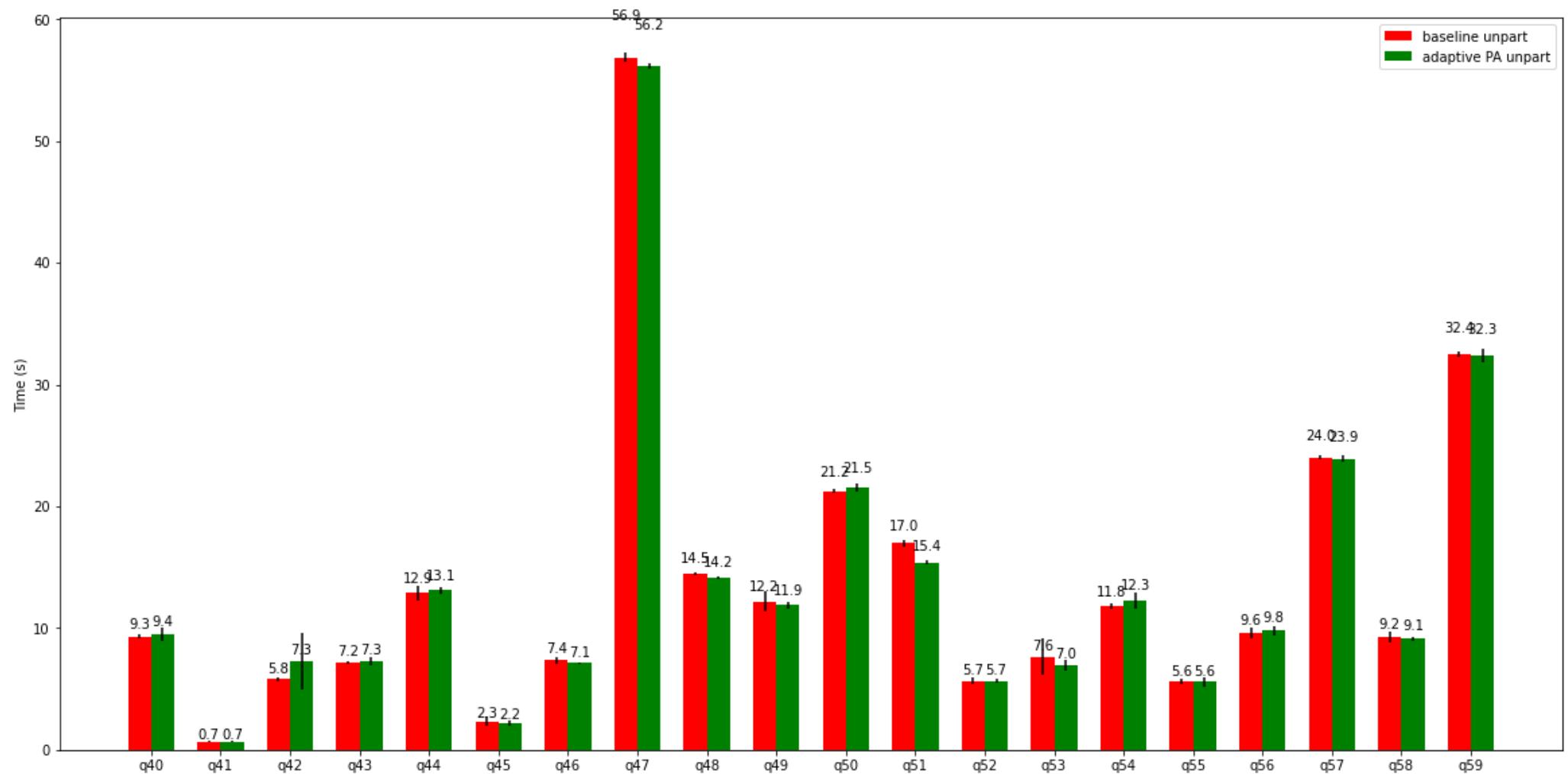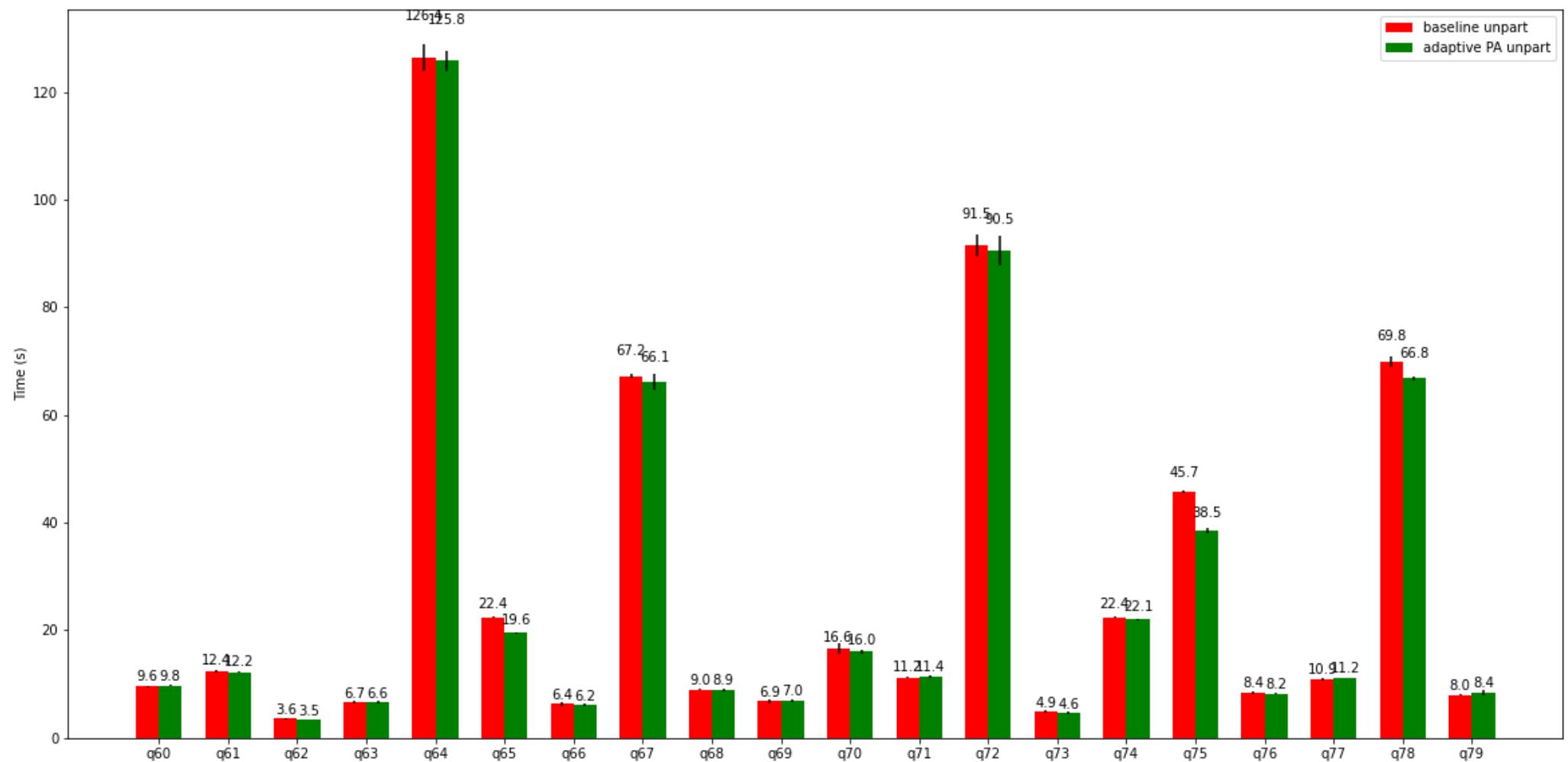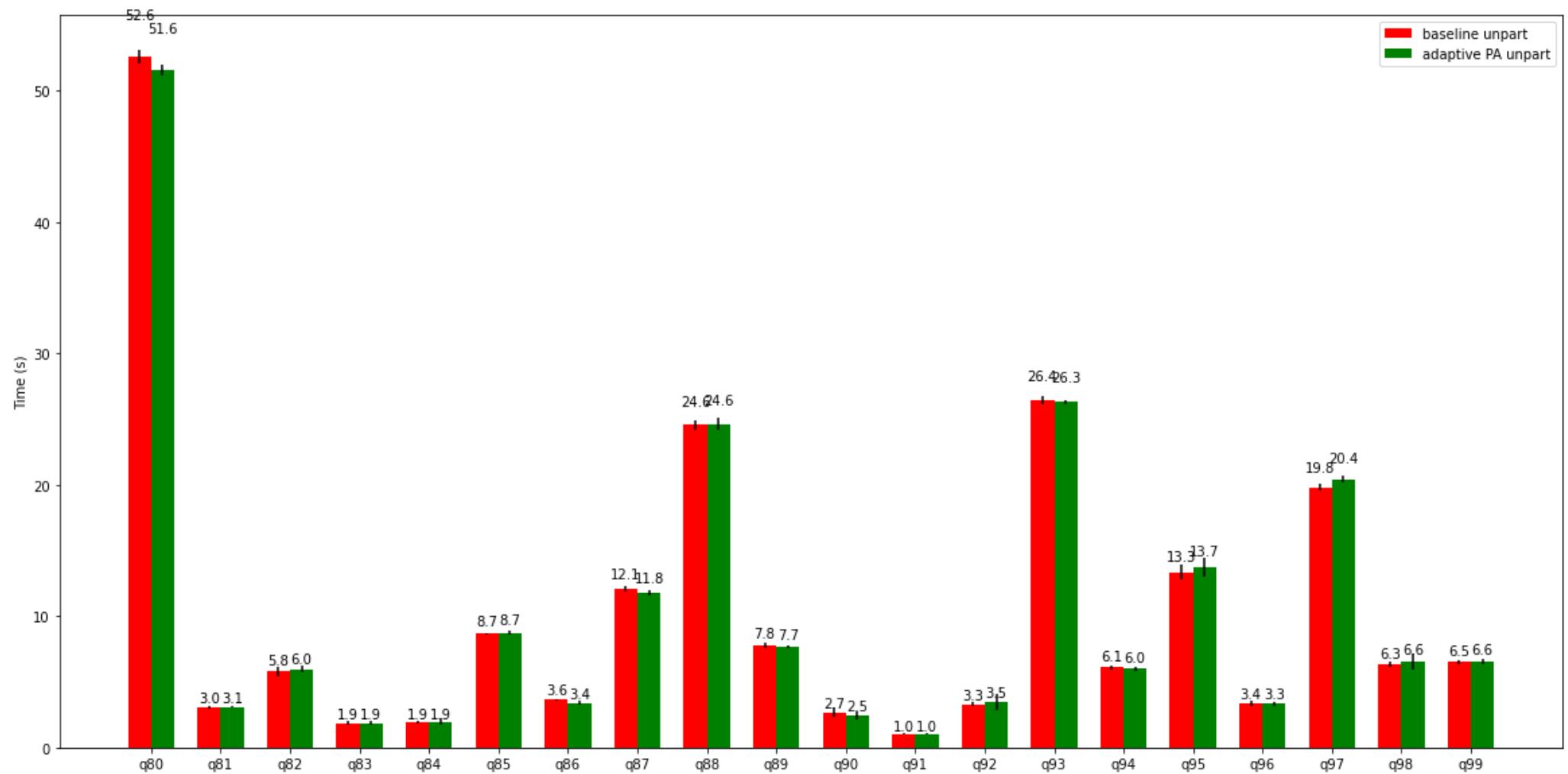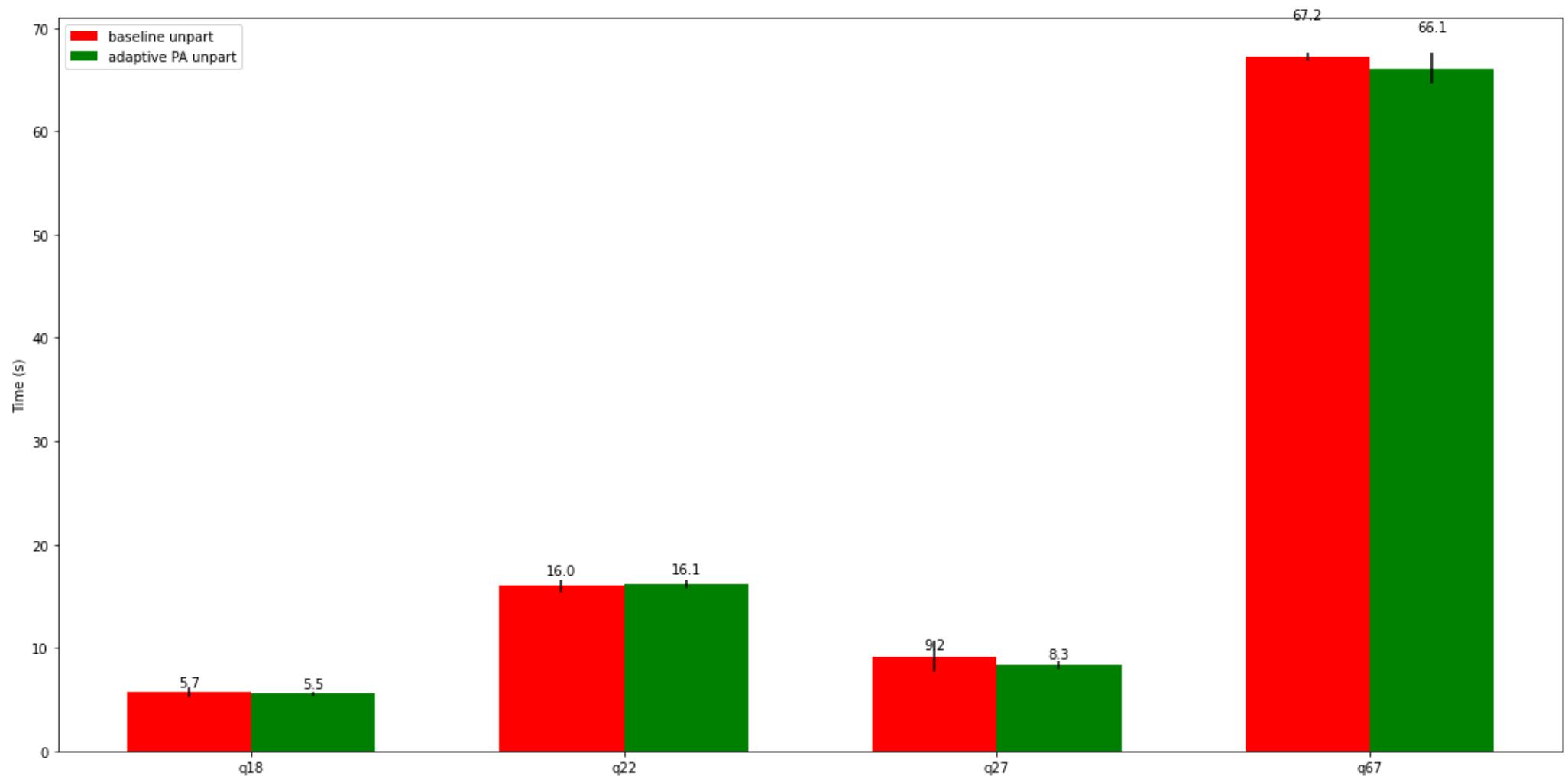
	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
38	presto/tpcds: q39	6.85	0.09	5.47	0.07	-20.17	1.26	1.22	0.00000
4	presto/tpcds: q05	34.21	11.46	27.49	0.42	-19.63	33.50	1.54	0.18193
74	presto/tpcds: q75	45.71	0.22	38.48	0.50	-15.83	0.48	1.29	0.00000
64	presto/tpcds: q65	22.42	0.15	19.57	0.17	-12.75	0.69	0.85	0.00000
22	presto/tpcds: q23	140.64	2.77	126.57	1.07	-10.01	1.97	0.85	0.00000

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
50	presto/tpcds: q51	16.99	0.27	15.38	0.16	-9.51	1.56	1.02	0.00000
26	presto/tpcds: q27	9.15	1.54	8.33	0.34	-8.98	16.79	4.09	0.22968
52	presto/tpcds: q53	7.64	1.48	6.97	0.46	-8.82	19.36	6.60	0.31151
0	presto/tpcds: q01	4.05	0.69	3.70	0.21	-8.55	17.10	5.54	0.26729
89	presto/tpcds: q90	2.69	0.38	2.47	0.31	-8.01	13.97	12.41	0.30251
85	presto/tpcds: q86	3.63	0.08	3.40	0.14	-6.36	2.31	4.21	0.00673
72	presto/tpcds: q73	4.91	0.29	4.63	0.27	-5.77	5.96	5.84	0.11203
24	presto/tpcds: q25	11.16	0.78	10.54	0.22	-5.61	7.02	2.08	0.08881
44	presto/tpcds: q45	2.34	0.37	2.22	0.20	-5.32	15.74	9.19	0.48570
77	presto/tpcds: q78	69.80	0.98	66.77	0.31	-4.33	1.41	0.46	0.00003
61	presto/tpcds: q62	3.64	0.11	3.50	0.04	-4.00	2.97	1.19	0.01156
69	presto/tpcds: q70	16.63	1.02	16.04	0.31	-3.54	6.11	1.91	0.20418
25	presto/tpcds: q26	4.71	0.39	4.55	0.06	-3.36	8.33	1.40	0.35173
45	presto/tpcds: q46	7.36	0.30	7.11	0.07	-3.30	4.11	1.04	0.08515
7	presto/tpcds: q08	9.02	0.31	8.74	0.36	-3.12	3.47	4.11	0.17895
86	presto/tpcds: q87	12.10	0.21	11.76	0.18	-2.87	1.76	1.54	0.01227
75	presto/tpcds: q76	8.41	0.34	8.17	0.12	-2.86	4.05	1.52	0.13581
15	presto/tpcds: q16	9.92	0.38	9.66	0.18	-2.56	3.82	1.82	0.16743
48	presto/tpcds: q49	12.18	0.81	11.88	0.24	-2.47	6.65	2.03	0.40443

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
31	presto/tpcds: q32	5.28	0.21	5.15	0.24	-2.45	4.07	4.74	0.35376
47	presto/tpcds: q48	14.46	0.16	14.15	0.11	-2.13	1.09	0.81	0.00303
17	presto/tpcds: q18	5.66	0.46	5.54	0.20	-2.10	8.14	3.63	0.57549
65	presto/tpcds: q66	6.36	0.42	6.23	0.20	-2.10	6.61	3.19	0.49827
37	presto/tpcds: q38	11.84	0.13	11.59	0.13	-2.09	1.06	1.09	0.00678
79	presto/tpcds: q80	52.59	0.52	51.59	0.43	-1.90	0.98	0.83	0.00445
90	presto/tpcds: q91	1.04	0.07	1.02	0.07	-1.79	6.36	6.76	0.64379
93	presto/tpcds: q94	6.09	0.15	5.99	0.19	-1.72	2.42	3.18	0.30988
66	presto/tpcds: q67	67.21	0.38	66.07	1.49	-1.70	0.57	2.26	0.10000
73	presto/tpcds: q74	22.45	0.07	22.07	0.13	-1.67	0.31	0.57	0.00008
23	presto/tpcds: q24	23.64	0.65	23.28	0.31	-1.52	2.73	1.33	0.24638
95	presto/tpcds: q96	3.39	0.21	3.35	0.16	-1.40	6.08	4.66	0.66244
6	presto/tpcds: q07	9.07	0.23	8.94	0.21	-1.38	2.53	2.36	0.34968
88	presto/tpcds: q89	7.81	0.22	7.70	0.09	-1.37	2.81	1.22	0.29663
10	presto/tpcds: q11	33.92	0.88	33.46	0.33	-1.34	2.60	0.99	0.26247
60	presto/tpcds: q61	12.40	0.35	12.25	0.14	-1.27	2.82	1.13	0.32946
36	presto/tpcds: q37	4.26	0.07	4.21	0.04	-1.27	1.71	1.04	0.15130
46	presto/tpcds: q47	56.88	0.39	56.19	0.22	-1.20	0.68	0.39	0.00381
13	presto/tpcds: q14	121.60	0.88	120.16	0.87	-1.19	0.72	0.72	0.01692

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
62	presto/tpcds: q63	6.67	0.28	6.60	0.27	-1.13	4.16	4.02	0.64149
57	presto/tpcds: q58	9.23	0.45	9.13	0.19	-1.12	4.86	2.05	0.61310
67	presto/tpcds: q68	8.97	0.15	8.87	0.18	-1.09	1.69	2.07	0.33748
71	presto/tpcds: q72	91.47	2.03	90.52	2.66	-1.04	2.22	2.94	0.50323
29	presto/tpcds: q30	2.46	0.12	2.45	0.09	-0.61	4.98	3.68	0.81402
63	presto/tpcds: q64	126.40	2.43	125.76	1.78	-0.50	1.92	1.42	0.61551
92	presto/tpcds: q93	26.42	0.28	26.30	0.13	-0.45	1.08	0.51	0.37635
56	presto/tpcds: q57	24.01	0.15	23.91	0.30	-0.42	0.62	1.24	0.47229
82	presto/tpcds: q83	1.87	0.16	1.86	0.19	-0.42	8.61	9.98	0.93933
54	presto/tpcds: q55	5.60	0.24	5.59	0.41	-0.33	4.28	7.27	0.92464
19	presto/tpcds: q20	3.05	0.36	3.04	0.26	-0.31	11.81	8.39	0.95901
58	presto/tpcds: q59	32.45	0.22	32.35	0.56	-0.31	0.68	1.73	0.69398
30	presto/tpcds: q31	18.26	0.29	18.23	0.19	-0.20	1.57	1.05	0.79644
34	presto/tpcds: q35	8.59	0.41	8.57	0.42	-0.17	4.82	4.92	0.95168
51	presto/tpcds: q52	5.66	0.31	5.66	0.20	0.05	5.45	3.61	0.98453
9	presto/tpcds: q10	6.83	0.22	6.84	0.50	0.07	3.22	7.25	0.98360
33	presto/tpcds: q34	5.05	0.39	5.06	0.22	0.11	7.67	4.29	0.97640
3	presto/tpcds: q04	58.20	0.32	58.35	0.33	0.27	0.55	0.57	0.42838
87	presto/tpcds: q88	24.55	0.38	24.63	0.47	0.31	1.54	1.90	0.76260

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
27	presto/tpcds: q28	24.45	0.20	24.55	0.24	0.41	0.83	0.98	0.45638
12	presto/tpcds: q13	16.44	0.31	16.55	0.59	0.64	1.88	3.57	0.70804
20	presto/tpcds: q21	3.21	0.11	3.23	0.11	0.66	3.37	3.25	0.73853
1	presto/tpcds: q02	20.76	0.23	20.91	0.19	0.73	1.10	0.90	0.23883
80	presto/tpcds: q81	3.04	0.14	3.07	0.06	0.77	4.47	1.91	0.70775
84	presto/tpcds: q85	8.66	0.09	8.73	0.16	0.86	1.03	1.86	0.34691
21	presto/tpcds: q22	15.99	0.59	16.15	0.36	0.96	3.72	2.24	0.60073
83	presto/tpcds: q84	1.93	0.12	1.95	0.26	1.01	6.01	13.14	0.86847
42	presto/tpcds: q43	7.20	0.11	7.28	0.30	1.08	1.46	4.17	0.56502
70	presto/tpcds: q71	11.25	0.14	11.39	0.13	1.27	1.22	1.15	0.09576
49	presto/tpcds: q50	21.22	0.17	21.50	0.33	1.32	0.81	1.52	0.09305
98	presto/tpcds: q99	6.49	0.15	6.58	0.22	1.36	2.27	3.27	0.42579
8	presto/tpcds: q09	26.88	0.35	27.25	0.56	1.40	1.29	2.07	0.19433
39	presto/tpcds: q40	9.31	0.13	9.45	0.55	1.53	1.43	5.86	0.55346
43	presto/tpcds: q44	12.91	0.61	13.11	0.27	1.57	4.76	2.06	0.47741
16	presto/tpcds: q17	10.63	0.39	10.81	0.24	1.67	3.66	2.21	0.36195
68	presto/tpcds: q69	6.86	0.40	6.98	0.23	1.75	5.87	3.27	0.54018
32	presto/tpcds: q33	9.09	0.31	9.25	0.26	1.79	3.42	2.86	0.35206
55	presto/tpcds: q56	9.61	0.47	9.78	0.42	1.80	4.87	4.26	0.51519

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
59	presto/tpcds: q60	9.58	0.14	9.75	0.21	1.80	1.43	2.12	0.11979
28	presto/tpcds: q29	12.79	0.34	13.04	0.96	1.95	2.62	7.33	0.55949
2	presto/tpcds: q03	5.60	0.18	5.71	0.25	1.99	3.29	4.30	0.39486
35	presto/tpcds: q36	7.37	0.16	7.53	0.40	2.13	2.19	5.27	0.39052
76	presto/tpcds: q77	10.92	0.19	11.16	0.09	2.23	1.72	0.80	0.01653
5	presto/tpcds: q06	4.96	0.36	5.09	0.43	2.80	7.19	8.50	0.55833
81	presto/tpcds: q82	5.78	0.36	5.95	0.28	2.92	6.25	4.63	0.38406
94	presto/tpcds: q95	13.34	0.57	13.74	0.75	3.01	4.30	5.45	0.32192
96	presto/tpcds: q97	19.81	0.25	20.44	0.28	3.18	1.26	1.36	0.00207
97	presto/tpcds: q98	6.33	0.24	6.57	0.62	3.89	3.86	9.45	0.38770
53	presto/tpcds: q54	11.83	0.22	12.29	0.65	3.95	1.85	5.33	0.12871
14	presto/tpcds: q15	2.57	0.43	2.67	0.40	4.15	16.83	14.92	0.66690
40	presto/tpcds: q41	0.66	0.05	0.69	0.04	4.70	7.35	5.11	0.23388
78	presto/tpcds: q79	8.03	0.09	8.44	0.41	5.13	1.06	4.80	0.03507
91	presto/tpcds: q92	3.30	0.13	3.47	0.61	5.18	3.89	17.55	0.51673
18	presto/tpcds: q19	6.56	0.18	7.39	1.61	12.66	2.78	21.73	0.23698
11	presto/tpcds: q12	2.23	0.62	2.62	0.56	17.44	27.78	21.34	0.28013
41	presto/tpcds: q42	5.79	0.12	7.30	2.32	26.02	2.11	31.74	0.14258

```
count    99
mean     -1
std       6
min     -20
```

```
25%        -2
50%        -0
75%         1
max        26
Name: % change, dtype: float64
```

TPC-H Comparison (CPU)
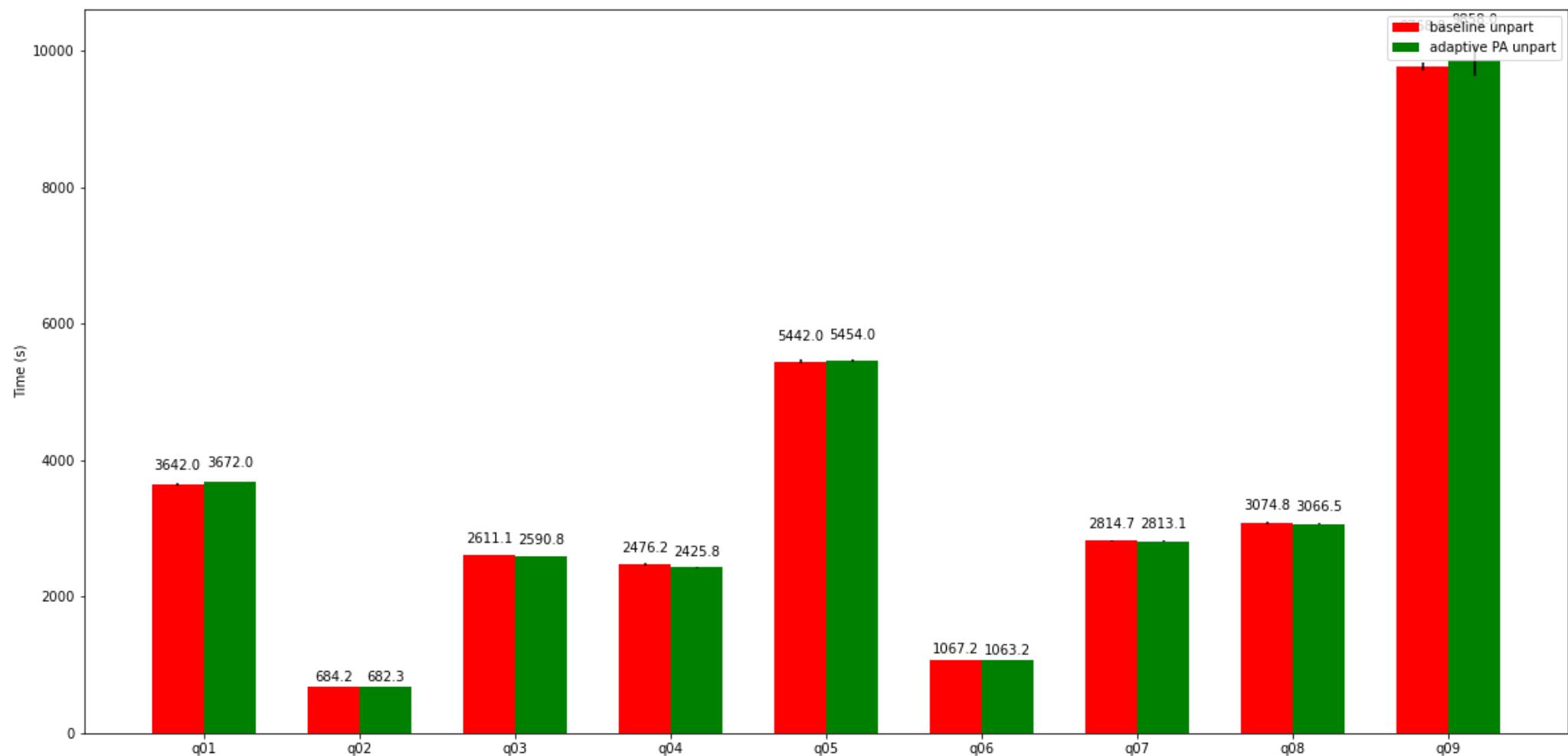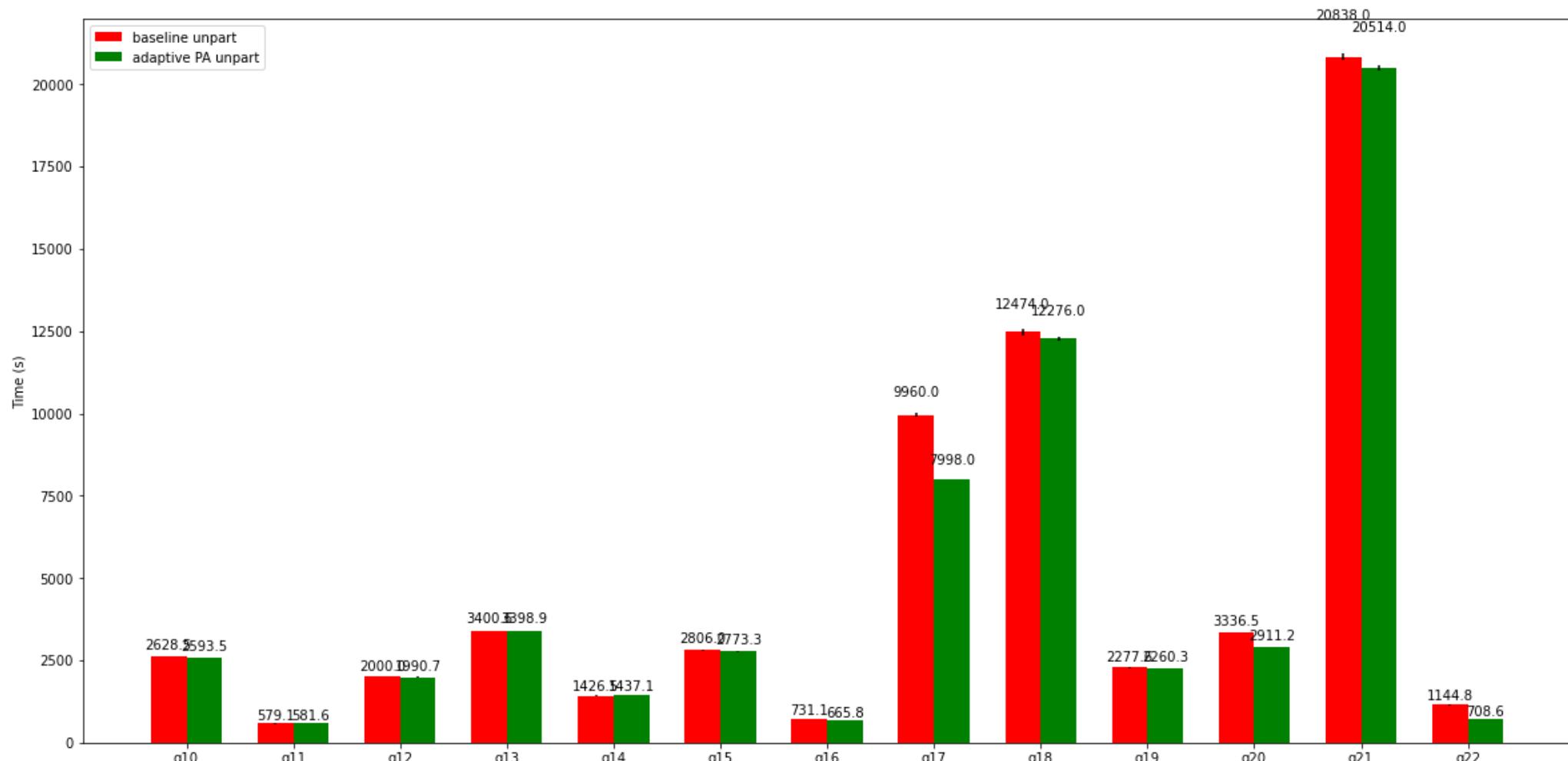
|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
21	presto/tpch: q22	1144.80	1.82	708.60	1.31	-38.10	0.16	0.19	0.00000
16	presto/tpch: q17	9960.00	58.79	7998.00	14.70	-19.70	0.59	0.18	0.00000
19	presto/tpch: q20	3336.50	5.47	2911.20	1.86	-12.75	0.16	0.06	0.00000
15	presto/tpch: q16	731.10	1.24	665.80	2.17	-8.93	0.17	0.33	0.00000
3	presto/tpch: q04	2476.20	20.99	2425.80	4.47	-2.04	0.85	0.18	0.00018
17	presto/tpch: q18	12474.00	103.71	12276.00	64.40	-1.59	0.83	0.52	0.00263

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
20	presto/tpch: q21	20838.00	102.88	20514.00	80.23	-1.55	0.49	0.39	0.00012
9	presto/tpch: q10	2628.50	4.95	2593.50	1.64	-1.33	0.19	0.06	0.00000
14	presto/tpch: q15	2806.00	12.71	2773.30	14.84	-1.17	0.45	0.54	0.00215
2	presto/tpch: q03	2611.10	4.11	2590.80	4.21	-0.78	0.16	0.16	0.00001
18	presto/tpch: q19	2277.60	7.33	2260.30	5.43	-0.76	0.32	0.24	0.00091
11	presto/tpch: q12	2000.00	5.84	1990.70	5.04	-0.46	0.29	0.25	0.01444
5	presto/tpch: q06	1067.20	2.17	1063.20	1.82	-0.37	0.20	0.17	0.00612
1	presto/tpch: q02	684.20	0.73	682.30	3.07	-0.28	0.11	0.45	0.17084
7	presto/tpch: q08	3074.80	13.92	3066.50	3.25	-0.27	0.45	0.11	0.18525
6	presto/tpch: q07	2814.70	6.99	2813.10	6.27	-0.06	0.25	0.22	0.68519
12	presto/tpch: q13	3400.60	7.03	3398.90	5.60	-0.05	0.21	0.16	0.65309
4	presto/tpch: q05	5442.00	27.10	5454.00	19.72	0.22	0.50	0.36	0.40103
10	presto/tpch: q11	579.10	1.71	581.60	1.30	0.43	0.30	0.22	0.01728
13	presto/tpch: q14	1426.50	4.42	1437.10	8.14	0.74	0.31	0.57	0.01872
0	presto/tpch: q01	3642.00	14.70	3672.00	0.00	0.82	0.40	0.00	0.00054
8	presto/tpch: q09	9768.00	58.79	9858.00	237.07	0.92	0.60	2.40	0.38798

```
count     22
mean      -4
std        9
min      -38
25%       -2
50%       -1
75%       -0
max        1
Name: % change, dtype: float64
```

# TPC-DS Comparison (CPU)
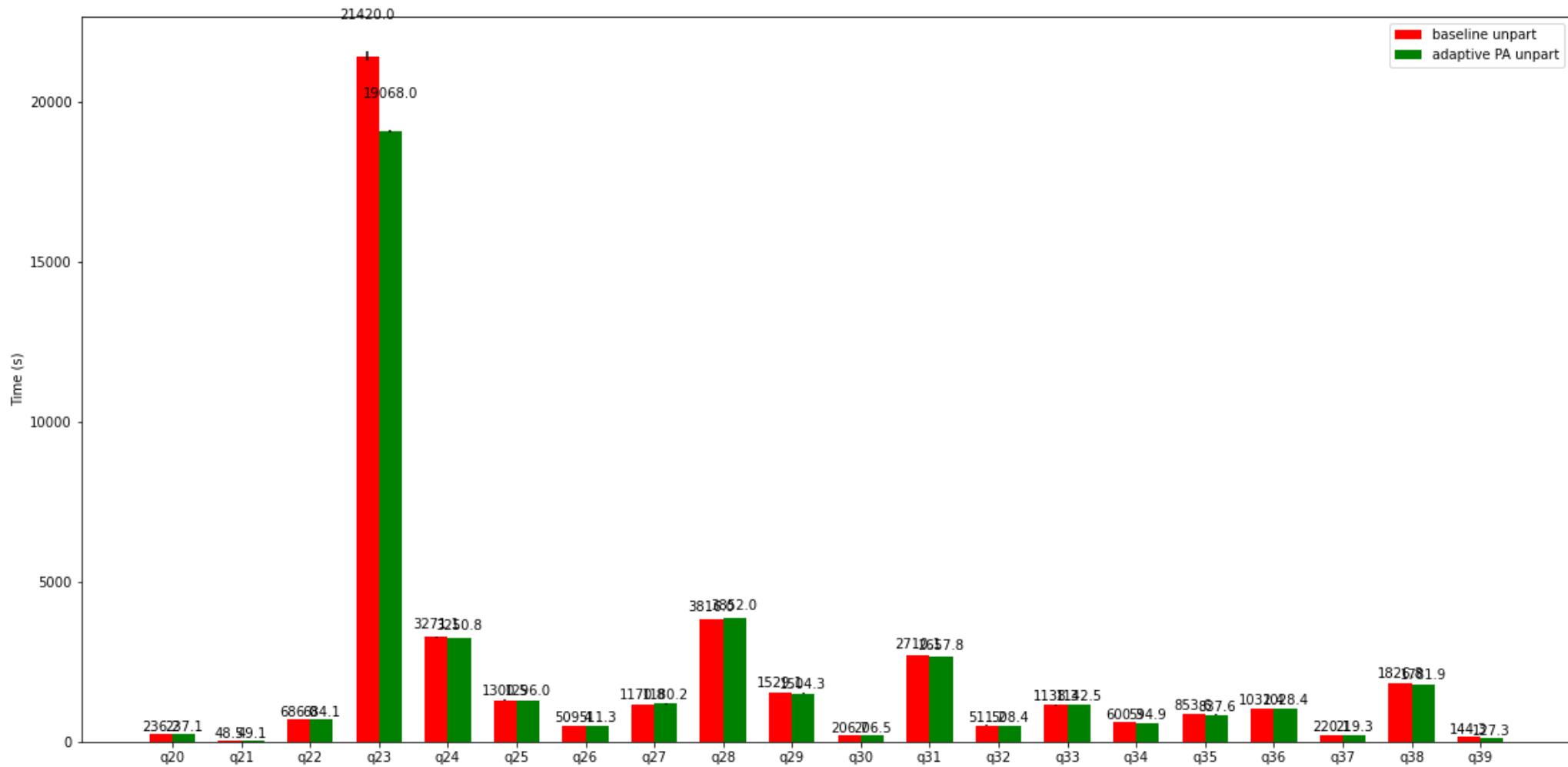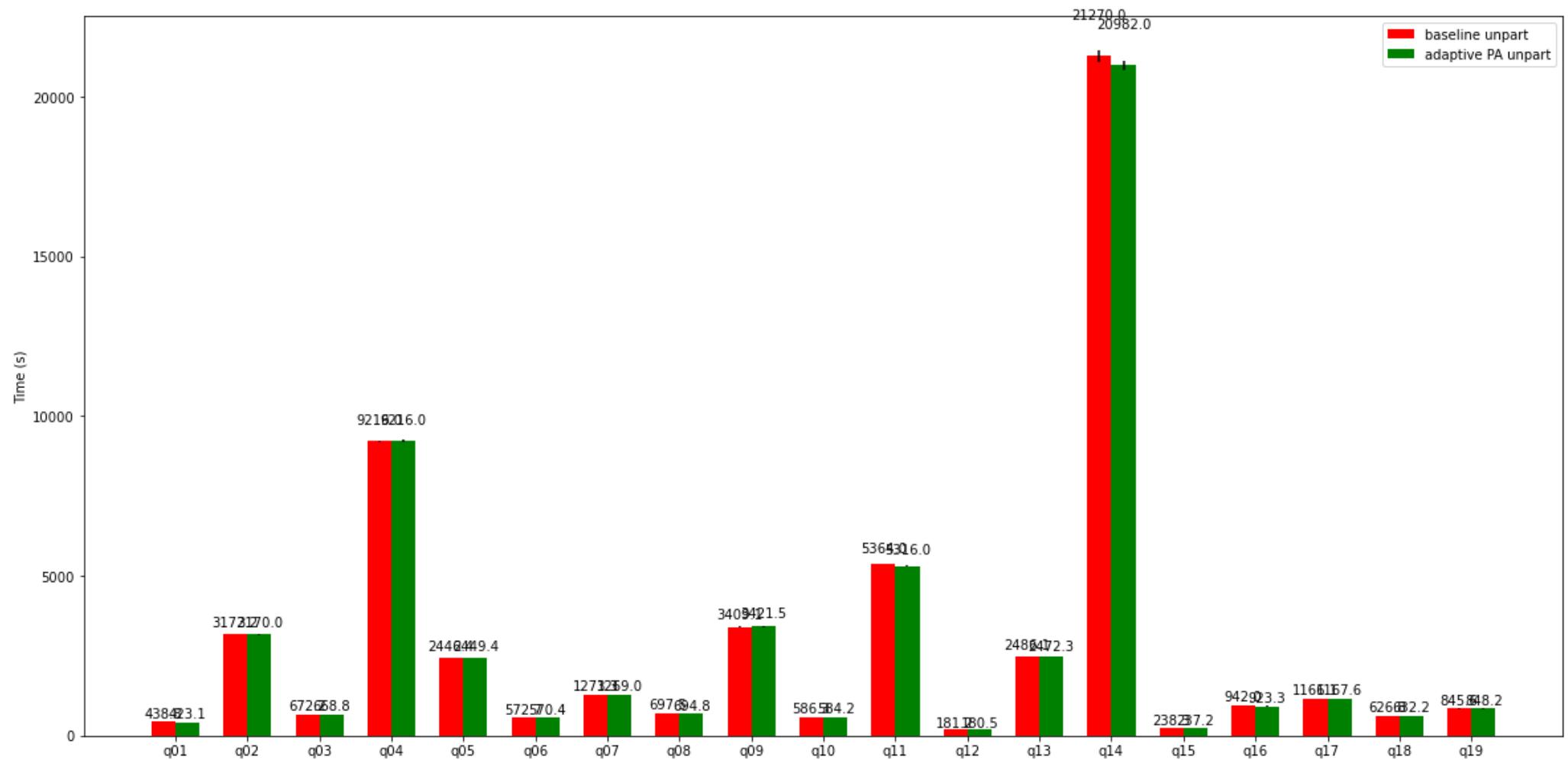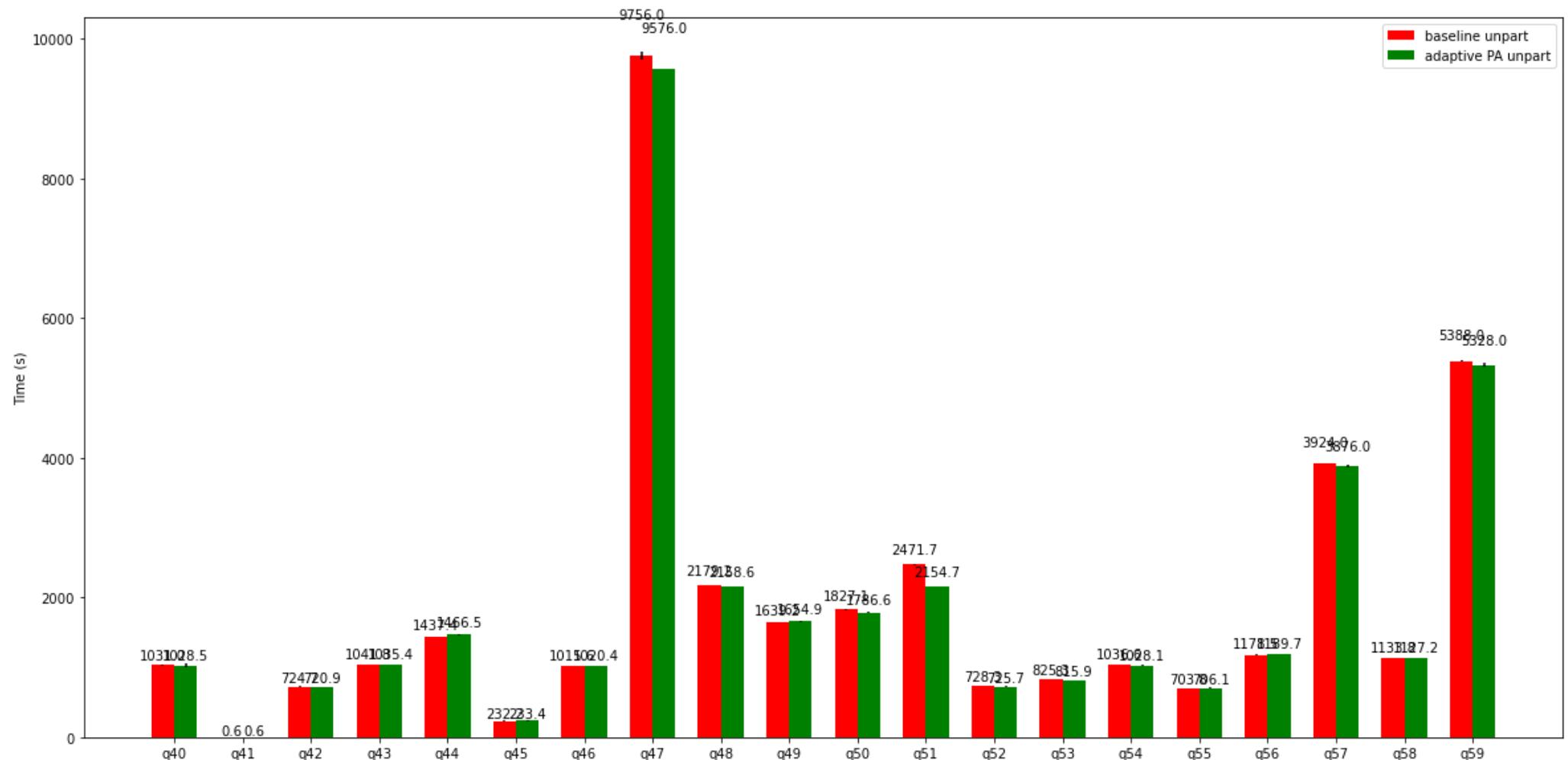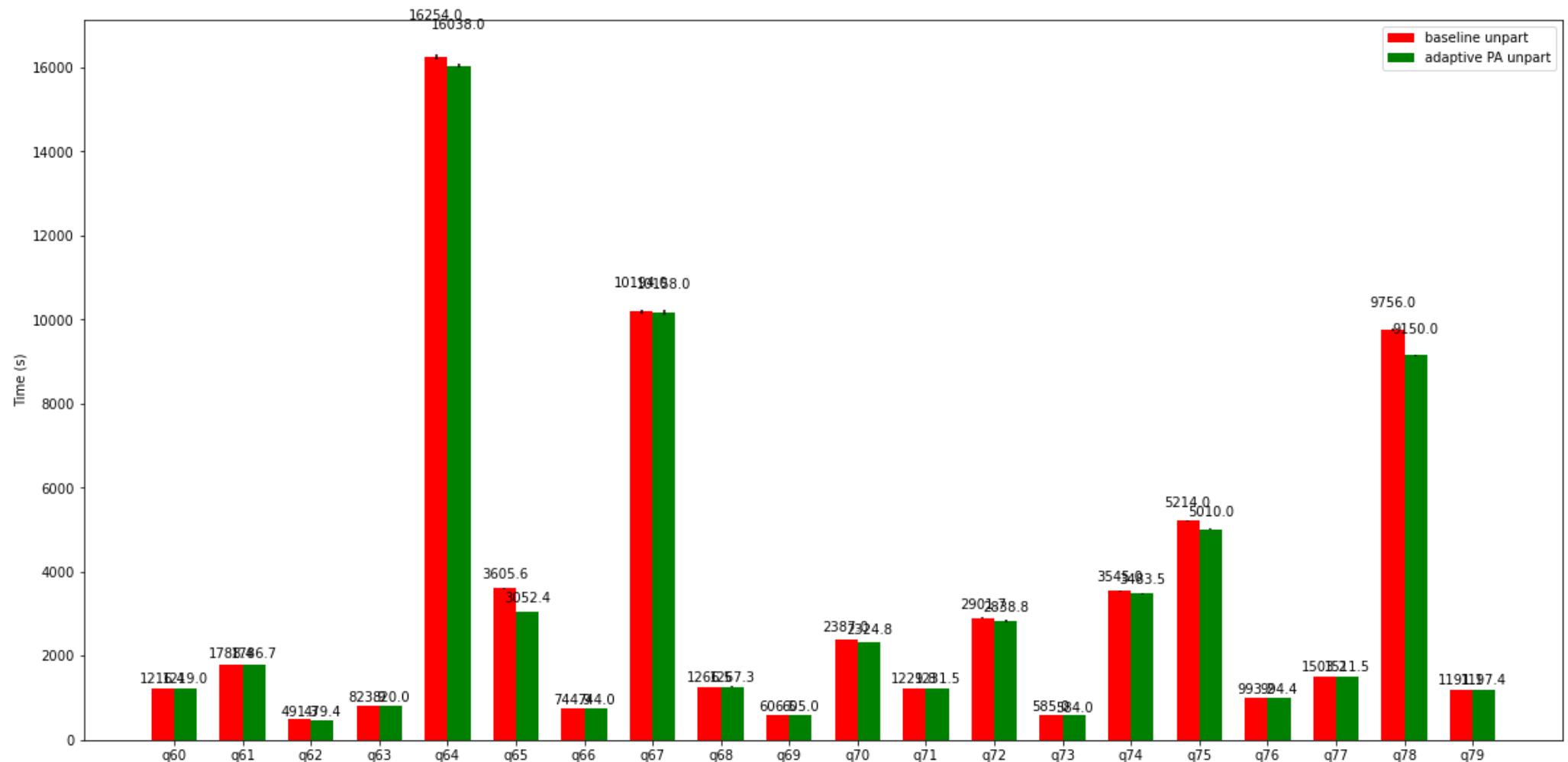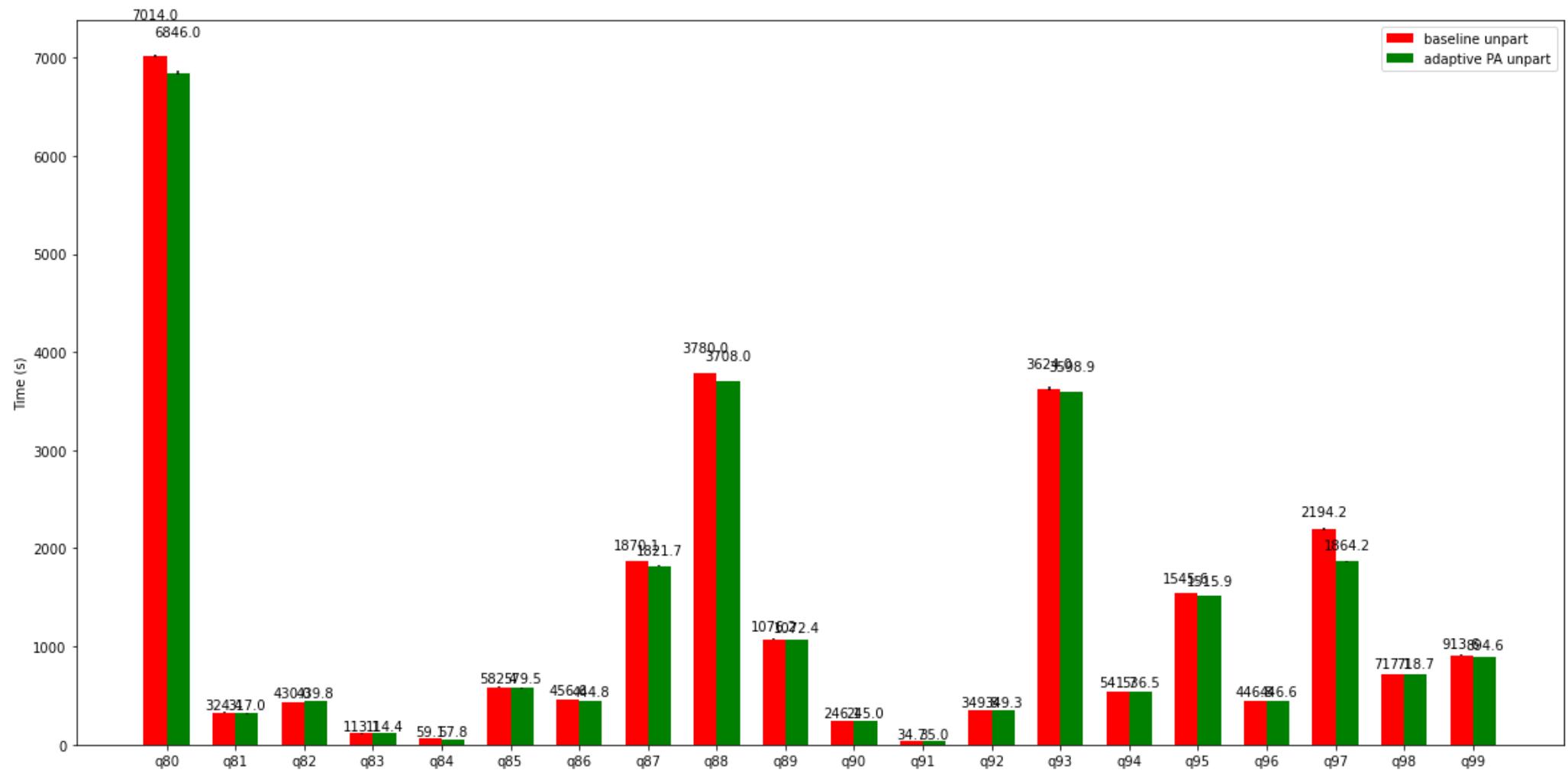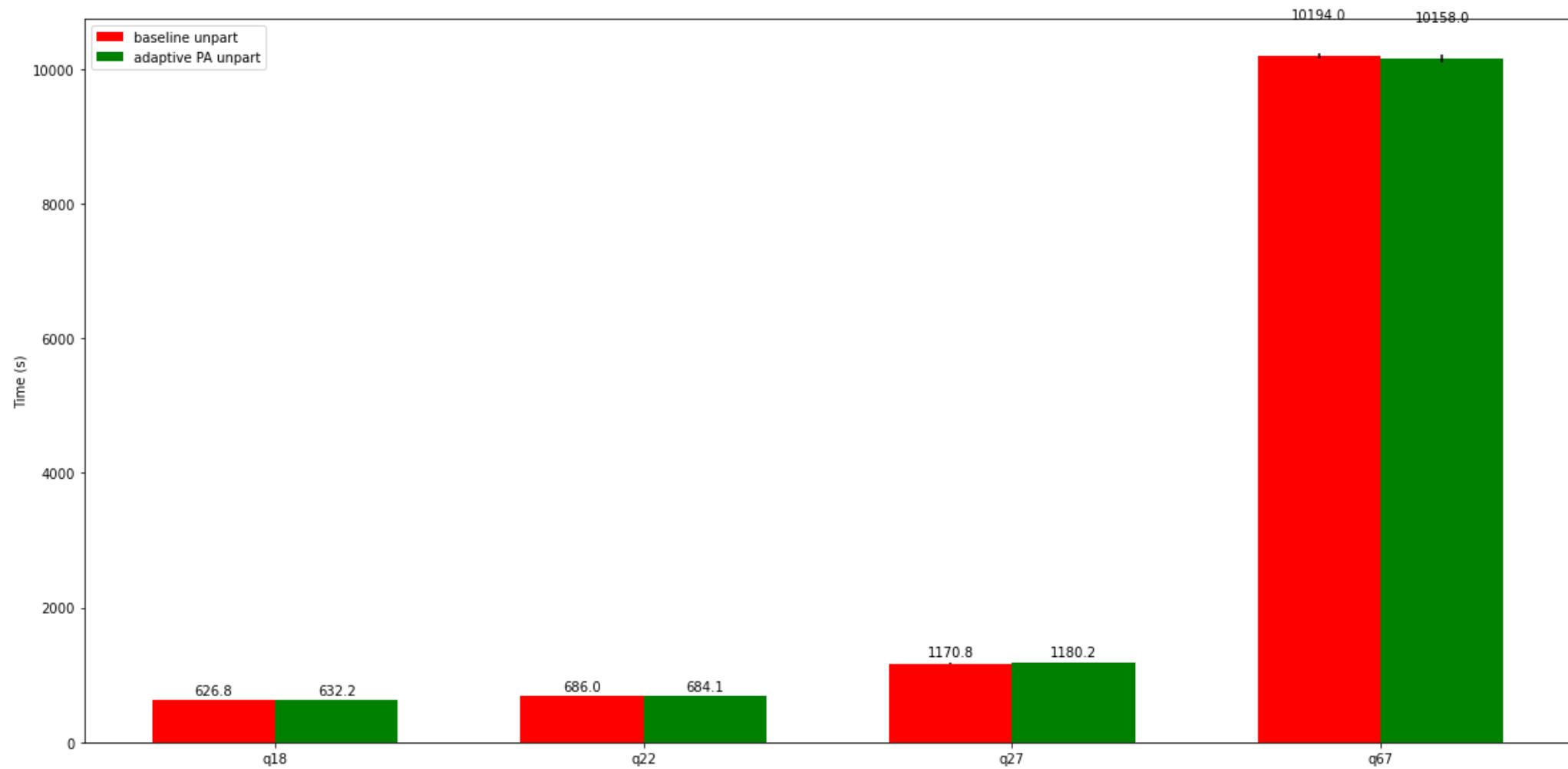
| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| **64** | presto/tpcds: q65 | 3605.60 | 14.92 | 3052.40 | 4.90 | -15.34 | 0.41 | 0.16 | 0.00000 |
| **96** | presto/tpcds: q97 | 2194.20 | 10.23 | 1864.20 | 8.30 | -15.04 | 0.47 | 0.45 | 0.00000 |
| **50** | presto/tpcds: q51 | 2471.70 | 9.39 | 2154.70 | 6.81 | -12.83 | 0.38 | 0.32 | 0.00000 |
| **38** | presto/tpcds: q39 | 144.30 | 1.60 | 127.30 | 0.96 | -11.78 | 1.11 | 0.76 | 0.00000 |
| **22** | presto/tpcds: q23 | 21420.00 | 154.42 | 19068.00 | 37.18 | -10.98 | 0.72 | 0.19 | 0.00000 |
| **77** | presto/tpcds: q78 | 9756.00 | 22.77 | 9150.00 | 14.70 | -6.21 | 0.23 | 0.16 | 0.00000 |

| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| 74 | presto/tpcds: q75 | 5214.00 | 14.70 | 5010.00 | 14.70 | -3.91 | 0.28 | 0.29 | 0.00000 |
| 0 | presto/tpcds: q01 | 438.80 | 5.59 | 423.10 | 1.80 | -3.58 | 1.27 | 0.42 | 0.00006 |
| 69 | presto/tpcds: q70 | 2387.00 | 9.47 | 2324.80 | 10.88 | -2.61 | 0.40 | 0.47 | 0.00000 |
| 86 | presto/tpcds: q87 | 1870.10 | 5.90 | 1821.70 | 8.01 | -2.59 | 0.32 | 0.44 | 0.00000 |
| 85 | presto/tpcds: q86 | 456.60 | 3.54 | 444.80 | 2.67 | -2.58 | 0.78 | 0.60 | 0.00007 |
| 37 | presto/tpcds: q38 | 1826.80 | 7.61 | 1781.90 | 9.38 | -2.46 | 0.42 | 0.53 | 0.00000 |
| 61 | presto/tpcds: q62 | 491.30 | 1.22 | 479.40 | 1.31 | -2.42 | 0.25 | 0.27 | 0.00000 |
| 79 | presto/tpcds: q80 | 7014.00 | 14.70 | 6846.00 | 14.70 | -2.40 | 0.21 | 0.21 | 0.00000 |
| 80 | presto/tpcds: q81 | 324.40 | 7.80 | 317.00 | 9.67 | -2.28 | 2.40 | 3.05 | 0.17534 |
| 49 | presto/tpcds: q50 | 1827.10 | 2.77 | 1786.60 | 3.97 | -2.22 | 0.15 | 0.22 | 0.00000 |
| 71 | presto/tpcds: q72 | 2901.70 | 22.71 | 2838.80 | 26.20 | -2.17 | 0.78 | 0.92 | 0.00125 |
| 83 | presto/tpcds: q84 | 59.10 | 0.12 | 57.84 | 0.21 | -2.13 | 0.20 | 0.37 | 0.00000 |
| 98 | presto/tpcds: q99 | 913.60 | 1.45 | 894.60 | 2.24 | -2.08 | 0.16 | 0.25 | 0.00000 |
| 15 | presto/tpcds: q16 | 942.00 | 3.79 | 923.30 | 2.82 | -1.99 | 0.40 | 0.31 | 0.00000 |
| 30 | presto/tpcds: q31 | 2710.10 | 5.62 | 2657.80 | 6.92 | -1.93 | 0.21 | 0.26 | 0.00000 |
| 94 | presto/tpcds: q95 | 1545.60 | 2.52 | 1515.90 | 2.45 | -1.92 | 0.16 | 0.16 | 0.00000 |
| 87 | presto/tpcds: q88 | 3780.00 | 0.00 | 3708.00 | 0.00 | -1.90 | 0.00 | 0.00 | 0.00000 |
| 34 | presto/tpcds: q35 | 853.60 | 7.20 | 837.60 | 20.20 | -1.87 | 0.84 | 2.41 | 0.09757 |
| 46 | presto/tpcds: q47 | 9756.00 | 55.77 | 9576.00 | 0.00 | -1.85 | 0.57 | 0.00 | 0.00001 |

| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| 73 | presto/tpcds: q74 | 3545.00 | 8.50 | 3483.50 | 22.38 | -1.73 | 0.24 | 0.64 | 0.00009 |
| 28 | presto/tpcds: q29 | 1529.10 | 5.28 | 1504.30 | 9.33 | -1.62 | 0.35 | 0.62 | 0.00021 |
| 13 | presto/tpcds: q14 | 21270.00 | 182.74 | 20982.00 | 148.29 | -1.35 | 0.86 | 0.71 | 0.01340 |
| 63 | presto/tpcds: q64 | 16254.00 | 54.60 | 16038.00 | 44.09 | -1.33 | 0.34 | 0.27 | 0.00002 |
| 56 | presto/tpcds: q57 | 3924.00 | 0.00 | 3876.00 | 18.59 | -1.22 | 0.00 | 0.48 | 0.00009 |
| 52 | presto/tpcds: q53 | 825.30 | 0.83 | 815.90 | 0.96 | -1.14 | 0.10 | 0.12 | 0.00000 |
| 58 | presto/tpcds: q59 | 5388.00 | 18.59 | 5328.00 | 32.20 | -1.11 | 0.35 | 0.60 | 0.00272 |
| 93 | presto/tpcds: q94 | 541.70 | 0.59 | 536.50 | 0.45 | -0.96 | 0.11 | 0.08 | 0.00000 |
| 47 | presto/tpcds: q48 | 2179.20 | 3.33 | 2158.60 | 3.03 | -0.95 | 0.15 | 0.14 | 0.00000 |
| 33 | presto/tpcds: q34 | 600.30 | 0.50 | 594.90 | 0.83 | -0.90 | 0.08 | 0.14 | 0.00000 |
| 10 | presto/tpcds: q11 | 5364.00 | 0.00 | 5316.00 | 29.39 | -0.89 | 0.00 | 0.55 | 0.00252 |
| 53 | presto/tpcds: q54 | 1036.60 | 7.26 | 1028.10 | 5.76 | -0.82 | 0.70 | 0.56 | 0.04845 |
| 92 | presto/tpcds: q93 | 3624.00 | 18.59 | 3598.90 | 1.71 | -0.69 | 0.51 | 0.05 | 0.00811 |
| 23 | presto/tpcds: q24 | 3271.10 | 12.61 | 3250.80 | 10.73 | -0.62 | 0.39 | 0.33 | 0.01326 |
| 42 | presto/tpcds: q43 | 1041.80 | 5.71 | 1035.40 | 4.64 | -0.61 | 0.55 | 0.45 | 0.05907 |
| 57 | presto/tpcds: q58 | 1133.80 | 1.50 | 1127.20 | 2.00 | -0.58 | 0.13 | 0.18 | 0.00007 |
| 12 | presto/tpcds: q13 | 2486.10 | 5.76 | 2472.30 | 14.93 | -0.56 | 0.23 | 0.60 | 0.06081 |
| 31 | presto/tpcds: q32 | 511.20 | 2.28 | 508.40 | 1.40 | -0.55 | 0.45 | 0.28 | 0.02815 |
| 41 | presto/tpcds: q42 | 724.70 | 1.44 | 720.90 | 3.21 | -0.52 | 0.20 | 0.45 | 0.02463 |

| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| 2 | presto/tpcds: q03 | 672.20 | 0.62 | 668.80 | 2.14 | -0.51 | 0.09 | 0.32 | 0.00381 |
| 84 | presto/tpcds: q85 | 582.40 | 5.66 | 579.50 | 5.75 | -0.50 | 0.97 | 0.99 | 0.39930 |
| 62 | presto/tpcds: q63 | 823.90 | 1.44 | 820.00 | 1.18 | -0.47 | 0.17 | 0.14 | 0.00044 |
| 14 | presto/tpcds: q15 | 238.30 | 0.59 | 237.20 | 0.31 | -0.46 | 0.25 | 0.13 | 0.00235 |
| 89 | presto/tpcds: q90 | 246.10 | 0.70 | 245.00 | 0.49 | -0.45 | 0.29 | 0.20 | 0.01035 |
| 5 | presto/tpcds: q06 | 572.70 | 0.50 | 570.40 | 0.73 | -0.40 | 0.09 | 0.13 | 0.00008 |
| 35 | presto/tpcds: q36 | 1032.40 | 0.62 | 1028.40 | 2.66 | -0.39 | 0.06 | 0.26 | 0.00491 |
| 7 | presto/tpcds: q08 | 697.50 | 0.63 | 694.80 | 2.79 | -0.39 | 0.09 | 0.40 | 0.04325 |
| 11 | presto/tpcds: q12 | 181.20 | 0.00 | 180.50 | 0.24 | -0.39 | 0.00 | 0.14 | 0.00004 |
| 36 | presto/tpcds: q37 | 220.10 | 0.24 | 219.30 | 0.33 | -0.36 | 0.11 | 0.15 | 0.00074 |
| 9 | presto/tpcds: q10 | 586.30 | 0.88 | 584.20 | 0.62 | -0.36 | 0.15 | 0.11 | 0.00076 |
| 51 | presto/tpcds: q52 | 728.30 | 0.59 | 725.70 | 0.99 | -0.36 | 0.08 | 0.14 | 0.00025 |
| 66 | presto/tpcds: q67 | 10194.00 | 42.09 | 10158.00 | 66.05 | -0.35 | 0.41 | 0.65 | 0.28651 |
| 88 | presto/tpcds: q89 | 1076.20 | 1.30 | 1072.40 | 1.81 | -0.35 | 0.12 | 0.17 | 0.00187 |
| 24 | presto/tpcds: q25 | 1300.50 | 8.70 | 1296.00 | 4.21 | -0.35 | 0.67 | 0.32 | 0.28068 |
| 6 | presto/tpcds: q07 | 1273.30 | 2.13 | 1269.00 | 2.49 | -0.34 | 0.17 | 0.20 | 0.00921 |
| 21 | presto/tpcds: q22 | 686.00 | 2.23 | 684.10 | 2.26 | -0.28 | 0.33 | 0.33 | 0.17364 |
| 68 | presto/tpcds: q69 | 606.50 | 1.16 | 605.00 | 0.98 | -0.25 | 0.19 | 0.16 | 0.03641 |
| 39 | presto/tpcds: q40 | 1031.00 | 8.87 | 1028.50 | 20.64 | -0.24 | 0.86 | 2.01 | 0.79070 |

| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| 72 | presto/tpcds: q73 | 585.00 | 1.00 | 584.00 | 0.62 | -0.17 | 0.17 | 0.11 | 0.06462 |
| 91 | presto/tpcds: q92 | 349.80 | 0.38 | 349.30 | 0.59 | -0.14 | 0.11 | 0.17 | 0.11139 |
| 65 | presto/tpcds: q66 | 744.90 | 6.58 | 744.00 | 5.82 | -0.12 | 0.88 | 0.78 | 0.80690 |
| 29 | presto/tpcds: q30 | 206.70 | 5.59 | 206.50 | 8.86 | -0.10 | 2.70 | 4.29 | 0.96362 |
| 60 | presto/tpcds: q61 | 1788.40 | 5.61 | 1786.70 | 3.90 | -0.10 | 0.31 | 0.22 | 0.55575 |
| 1 | presto/tpcds: q02 | 3172.20 | 6.52 | 3170.00 | 15.39 | -0.07 | 0.21 | 0.49 | 0.75382 |
| 95 | presto/tpcds: q96 | 446.80 | 0.73 | 446.60 | 0.62 | -0.04 | 0.16 | 0.14 | 0.61910 |
| 3 | presto/tpcds: q04 | 9216.00 | 32.20 | 9216.00 | 39.44 | 0.00 | 0.35 | 0.43 | 1.00000 |
| 67 | presto/tpcds: q68 | 1266.50 | 2.64 | 1267.30 | 2.69 | 0.06 | 0.21 | 0.21 | 0.61476 |
| 75 | presto/tpcds: q76 | 993.20 | 3.41 | 994.40 | 2.00 | 0.12 | 0.34 | 0.20 | 0.47388 |
| 4 | presto/tpcds: q05 | 2446.40 | 5.46 | 2449.40 | 4.94 | 0.12 | 0.22 | 0.20 | 0.34171 |
| 16 | presto/tpcds: q17 | 1166.10 | 0.99 | 1167.60 | 2.04 | 0.13 | 0.08 | 0.18 | 0.13644 |
| 70 | presto/tpcds: q71 | 1229.80 | 1.18 | 1231.50 | 2.86 | 0.14 | 0.10 | 0.23 | 0.20787 |
| 59 | presto/tpcds: q60 | 1216.40 | 5.55 | 1219.00 | 3.59 | 0.21 | 0.46 | 0.29 | 0.35796 |
| 97 | presto/tpcds: q98 | 717.10 | 1.67 | 718.70 | 1.03 | 0.22 | 0.23 | 0.14 | 0.07415 |
| 18 | presto/tpcds: q19 | 845.60 | 5.85 | 848.20 | 8.17 | 0.31 | 0.69 | 0.96 | 0.54048 |
| 54 | presto/tpcds: q55 | 703.80 | 1.26 | 706.10 | 0.88 | 0.33 | 0.18 | 0.13 | 0.00436 |
| 8 | presto/tpcds: q09 | 3409.10 | 11.07 | 3421.50 | 13.17 | 0.36 | 0.32 | 0.38 | 0.10792 |
| 32 | presto/tpcds: q33 | 1138.30 | 2.06 | 1142.50 | 3.07 | 0.37 | 0.18 | 0.27 | 0.01932 |

| | query | baseline unpart mean | baseline unpart std.dev | adaptive PA unpart mean | adaptive PA unpart std.dev | % change | baseline unpart std.dev % | adaptive PA unpart std.dev % | p-value |
|---|---|---|---|---|---|---|---|---|---|
| **25** | presto/tpcds: q26 | 509.40 | 0.54 | 511.30 | 0.59 | 0.37 | 0.11 | 0.12 | 0.00016 |
| **19** | presto/tpcds: q20 | 236.20 | 0.49 | 237.10 | 0.24 | 0.38 | 0.21 | 0.10 | 0.00242 |
| **45** | presto/tpcds: q46 | 1015.60 | 0.82 | 1020.40 | 3.88 | 0.47 | 0.08 | 0.38 | 0.01421 |
| **44** | presto/tpcds: q45 | 232.20 | 0.93 | 233.40 | 0.38 | 0.52 | 0.40 | 0.16 | 0.01510 |
| **78** | presto/tpcds: q79 | 1191.10 | 1.58 | 1197.40 | 2.70 | 0.53 | 0.13 | 0.23 | 0.00060 |
| **76** | presto/tpcds: q77 | 1503.20 | 4.78 | 1511.50 | 7.58 | 0.55 | 0.32 | 0.50 | 0.04674 |
| **26** | presto/tpcds: q27 | 1170.80 | 3.65 | 1180.20 | 2.81 | 0.80 | 0.31 | 0.24 | 0.00054 |
| **90** | presto/tpcds: q91 | 34.74 | 0.49 | 35.02 | 0.39 | 0.81 | 1.40 | 1.11 | 0.29496 |
| **17** | presto/tpcds: q18 | 626.80 | 6.67 | 632.20 | 1.68 | 0.86 | 1.06 | 0.27 | 0.08330 |
| **27** | presto/tpcds: q28 | 3816.00 | 0.00 | 3852.00 | 0.00 | 0.94 | 0.00 | 0.00 | 0.00000 |
| **55** | presto/tpcds: q56 | 1178.50 | 2.26 | 1189.70 | 4.70 | 0.95 | 0.19 | 0.40 | 0.00037 |
| **48** | presto/tpcds: q49 | 1639.20 | 2.40 | 1654.90 | 3.73 | 0.96 | 0.15 | 0.23 | 0.00001 |
| **82** | presto/tpcds: q83 | 113.10 | 0.83 | 114.40 | 0.62 | 1.15 | 0.73 | 0.54 | 0.01161 |
| **20** | presto/tpcds: q21 | 48.50 | 0.23 | 49.09 | 0.36 | 1.22 | 0.47 | 0.73 | 0.00660 |
| **40** | presto/tpcds: q41 | 0.56 | 0.02 | 0.57 | 0.02 | 1.52 | 4.25 | 3.86 | 0.53322 |
| **43** | presto/tpcds: q44 | 1437.40 | 1.96 | 1466.50 | 9.31 | 2.02 | 0.14 | 0.64 | 0.00002 |
| **81** | presto/tpcds: q82 | 430.00 | 0.62 | 439.80 | 0.66 | 2.28 | 0.14 | 0.15 | 0.00000 |

```
count     99
mean      -1
std        3
min      -15
25%       -2
50%       -0
75%        0
```

max   2
Name: % change, dtype: float64

TPC-H Comparison (Network)
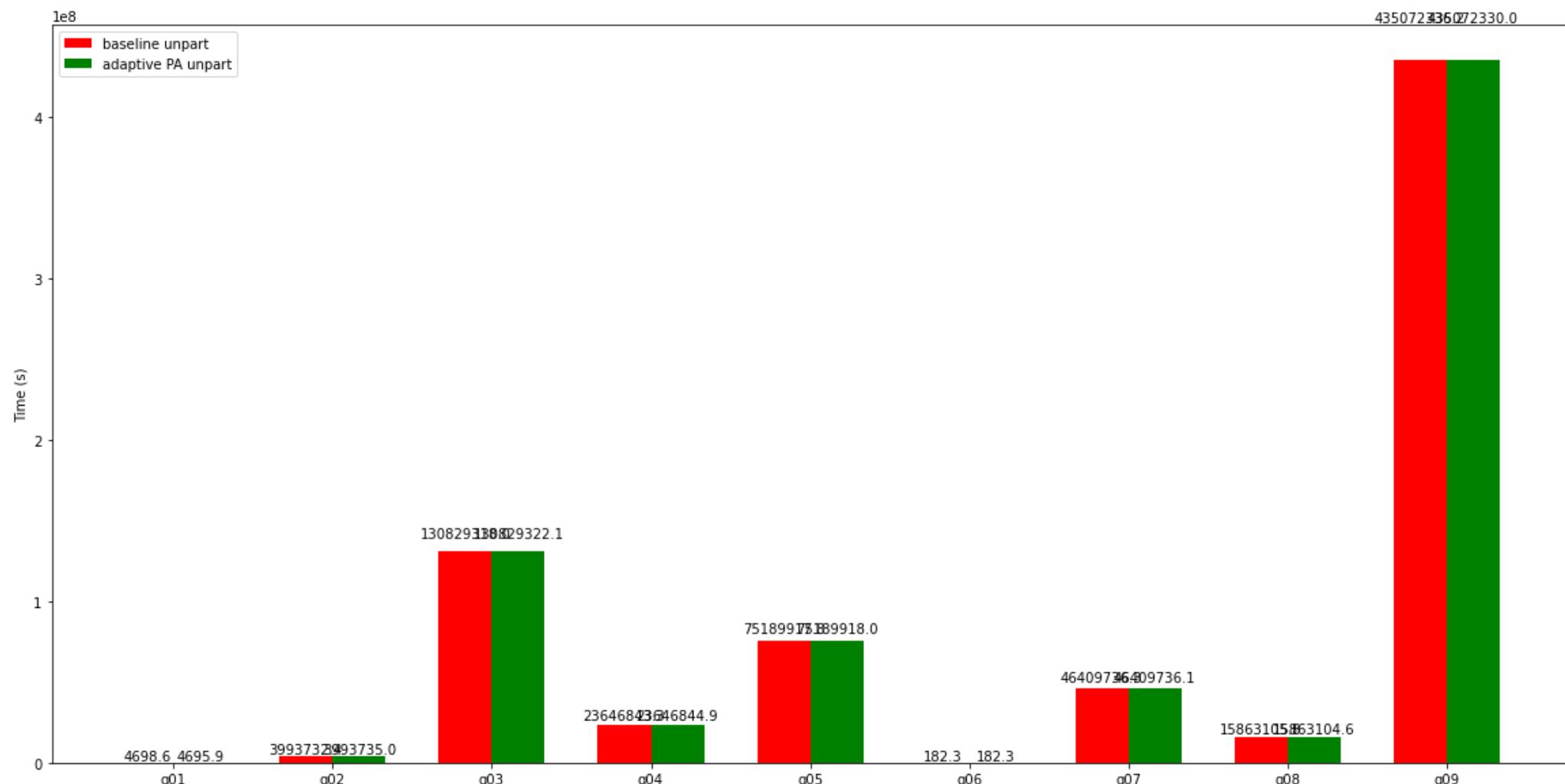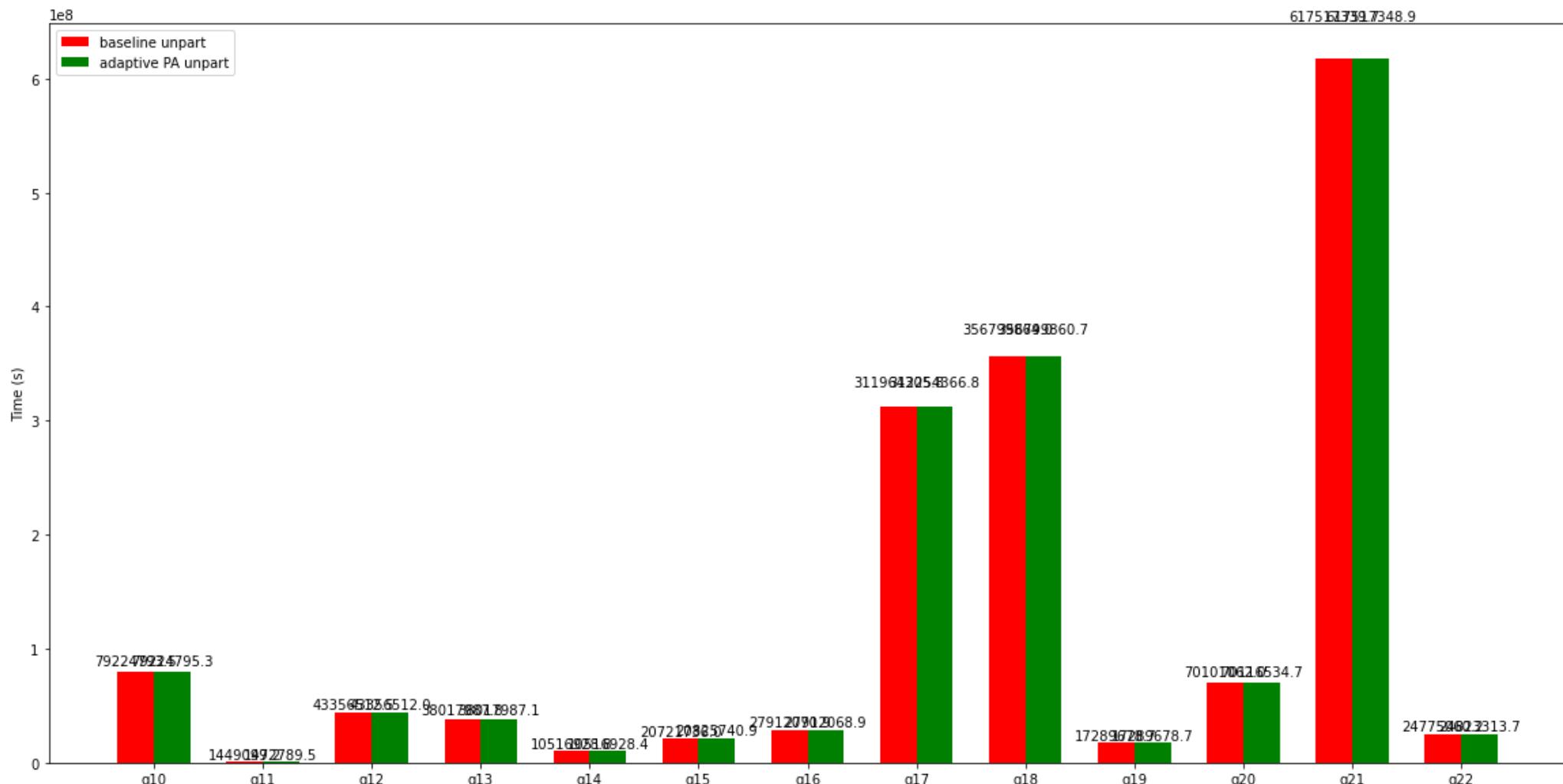
	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
0	presto/tpch: q01	4698.65	12.82	4695.90	15.57	-0.06	0.27	0.33	0.74613
7	presto/tpch: q08	15863105.78	2.72	15863104.59	4.06	-0.00	0.00	0.00	0.56397
15	presto/tpch: q16	27912070.95	2.97	27912068.91	3.03	-0.00	0.00	0.00	0.26807
13	presto/tpch: q14	10516928.78	2.23	10516928.41	2.84	-0.00	0.00	0.00	0.80586
12	presto/tpch: q13	38017987.77	1.03	38017987.12	1.13	-0.00	0.00	0.00	0.32047

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
8	presto/tpch: q09	435072336.19	7.65	435072329.97	6.14	-0.00	0.00	0.00	0.15185
11	presto/tpch: q12	43356512.45	2.40	43356512.04	2.69	-0.00	0.00	0.00	0.78639
17	presto/tpch: q18	356799863.98	16.97	356799860.68	15.92	-0.00	0.00	0.00	0.73617
6	presto/tpch: q07	46409736.27	5.04	46409736.08	5.11	-0.00	0.00	0.00	0.94921
18	presto/tpch: q19	17289678.69	0.00	17289678.69	0.00	0.00	0.00	0.00	nan
4	presto/tpch: q05	75189917.85	3.73	75189917.99	4.08	0.00	0.00	0.00	0.95202
20	presto/tpch: q21	617517339.67	25.18	617517348.90	32.51	0.00	0.00	0.00	0.59442
9	presto/tpch: q10	79224793.50	4.99	79224795.29	3.86	0.00	0.00	0.00	0.50109
2	presto/tpch: q03	130829318.00	4.75	130829322.06	2.90	0.00	0.00	0.00	0.10381
3	presto/tpch: q04	23646843.29	3.13	23646844.89	3.36	0.00	0.00	0.00	0.41490
1	presto/tpch: q02	3993732.37	5.52	3993735.03	1.43	0.00	0.00	0.00	0.28116
5	presto/tpch: q06	182.26	0.44	182.29	0.41	0.01	0.24	0.22	0.93270
19	presto/tpch: q20	70101062.04	1.37	70116534.72	109.02	0.02	0.00	0.00	0.00000
16	presto/tpch: q17	311964305.83	0.00	312254366.82	456.80	0.09	0.00	0.00	0.00000
21	presto/tpch: q22	24775060.22	0.04	24823313.70	118.22	0.19	0.00	0.00	0.00000
14	presto/tpch: q15	20721735.96	290.64	20825740.89	939.01	0.50	0.00	0.00	0.00000
10	presto/tpch: q11	1449099.21	0.15	1472789.52	10371.79	1.63	0.00	0.70	0.00023

```
count    22
mean      0
std       0
min      -0
25%      -0
50%       0
75%       0
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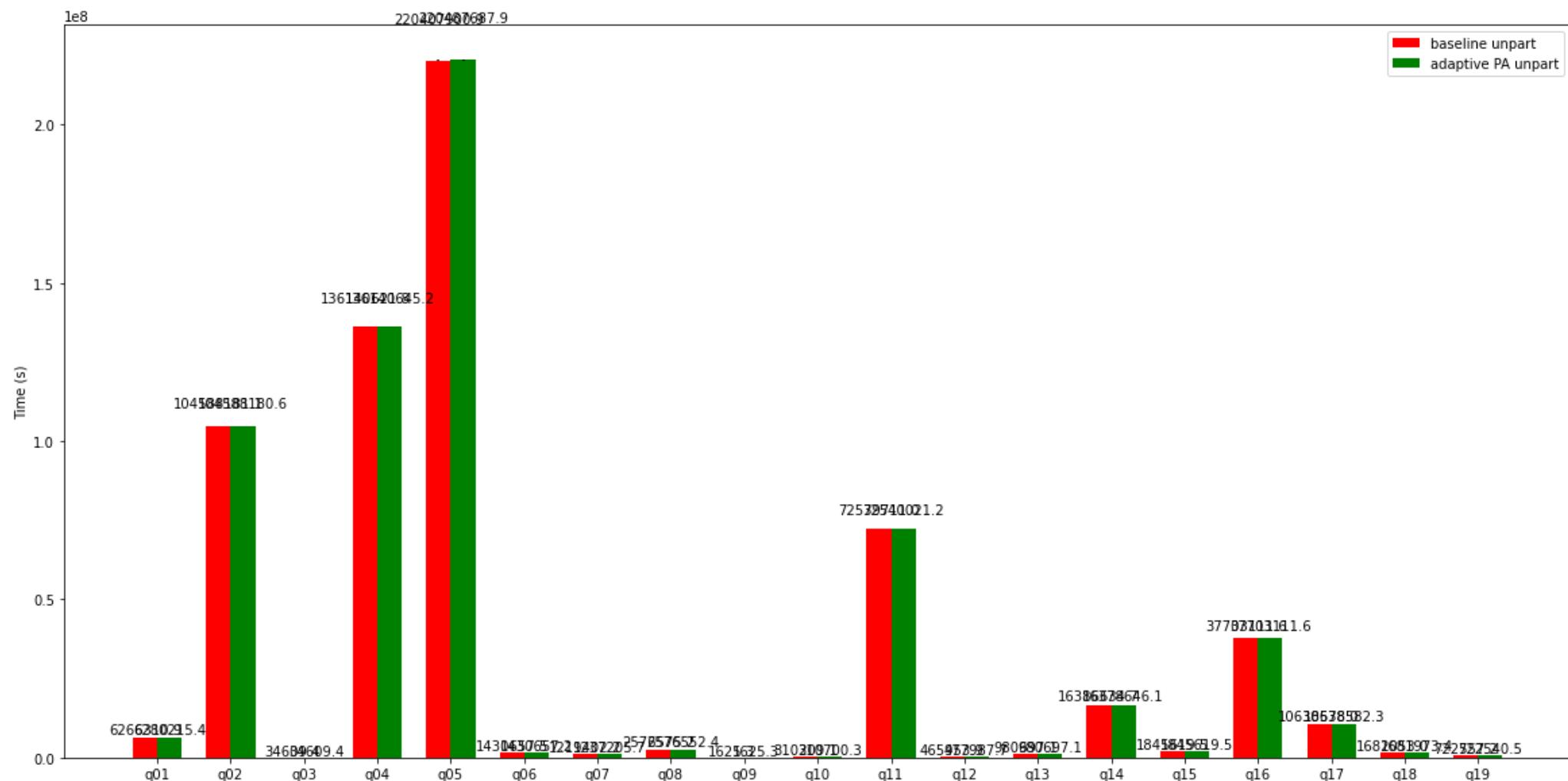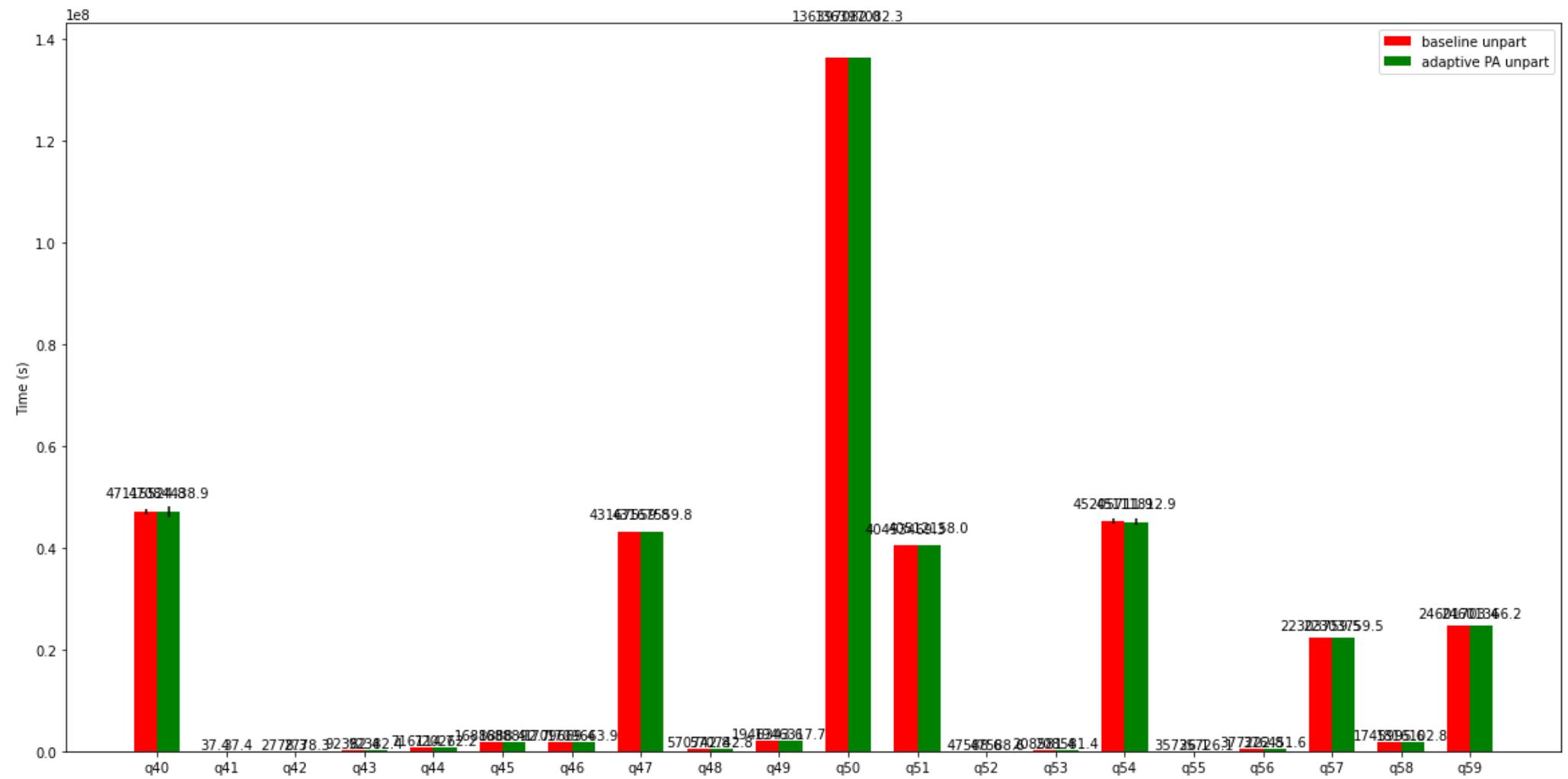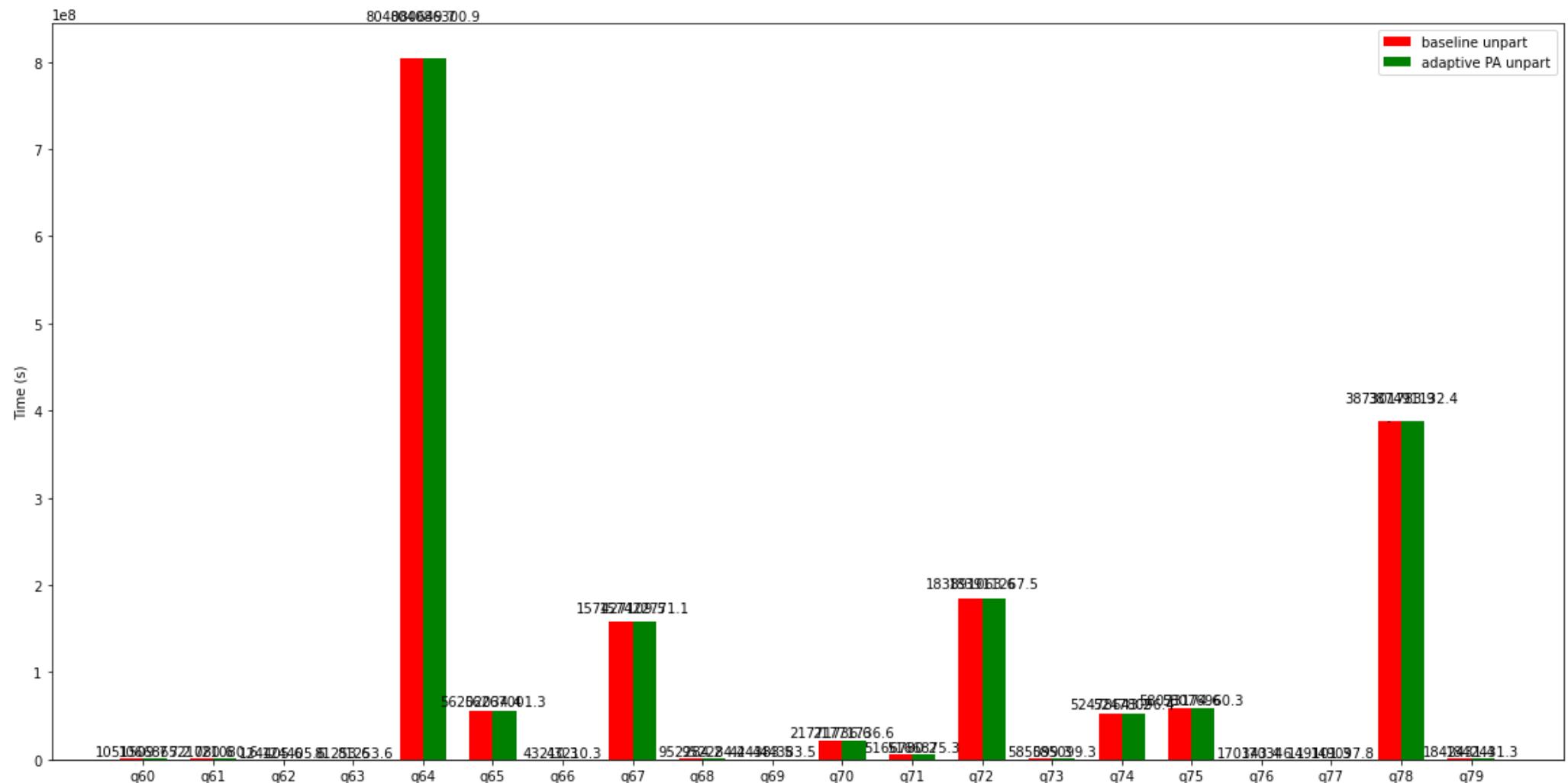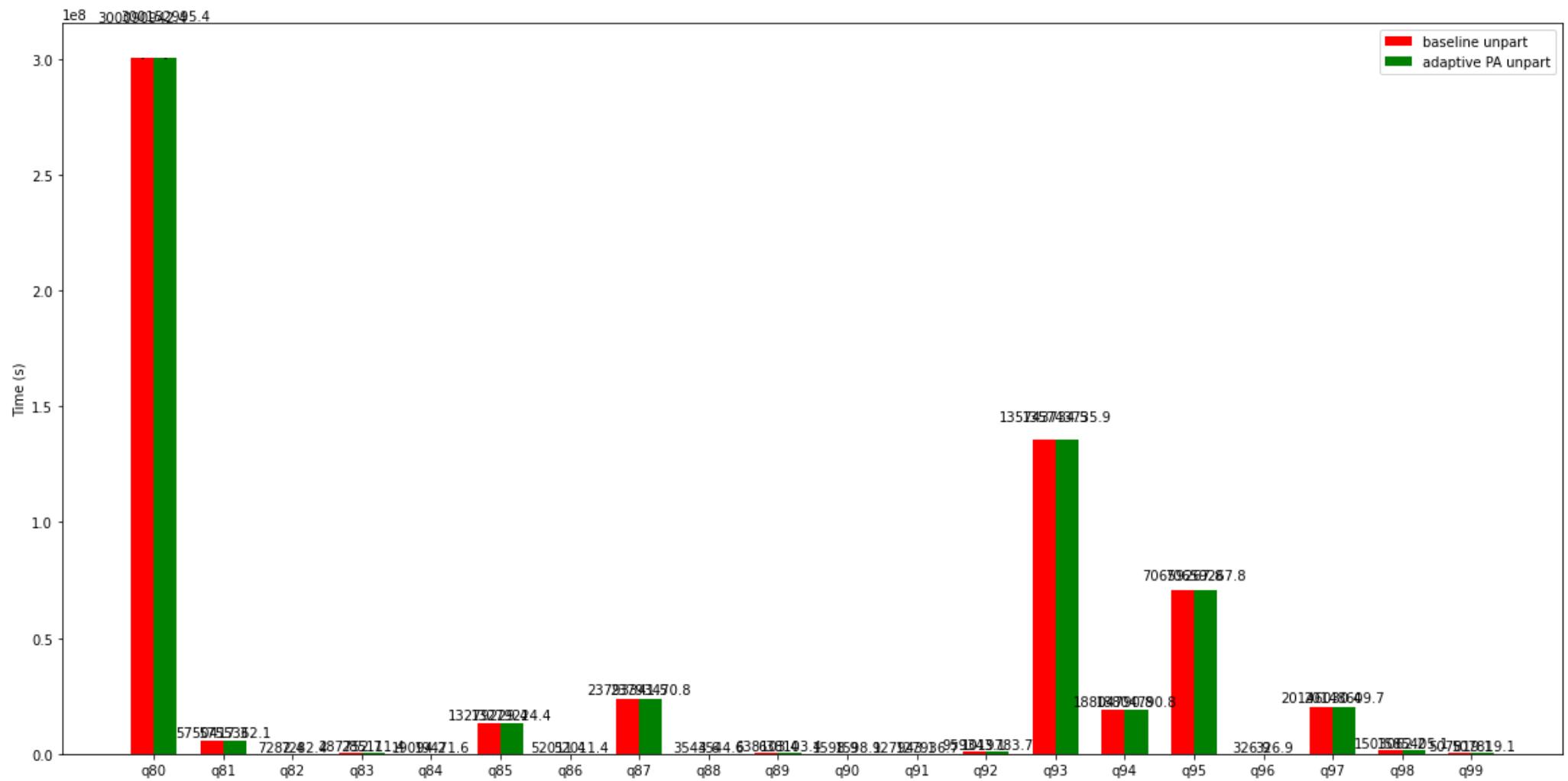
TPC-DS Comparison (Network)

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
26	presto/tpcds: q27	128316.37	4738.38	126018.66	2821.31	-1.79	3.69	2.24	0.33151
82	presto/tpcds: q83	287752.72	2311.46	285111.37	892.91	-0.92	0.80	0.31	0.02599
53	presto/tpcds: q54	45205711.92	457208.37	45111812.91	673139.13	-0.21	1.01	1.49	0.78321
55	presto/tpcds: q56	377222.80	757.10	376451.56	828.29	-0.20	0.20	0.22	0.12319
39	presto/tpcds: q40	47115524.81	531995.45	47084438.90	1125761.24	-0.07	1.13	2.39	0.95244

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
13	presto/tpcds: q14	16386634.71	4129.97	16378646.14	5029.29	-0.05	0.03	0.03	0.01319
90	presto/tpcds: q91	127943.05	5.46	127936.74	4.89	-0.00	0.00	0.00	0.06113
17	presto/tpcds: q18	1682053.02	147.30	1681973.43	169.42	-0.00	0.01	0.01	0.40552
66	presto/tpcds: q67	157427109.55	5340.58	157422771.11	7808.96	-0.00	0.00	0.00	0.28756
18	presto/tpcds: q19	722557.23	11.78	722540.49	67.85	-0.00	0.00	0.01	0.56471
76	presto/tpcds: q77	149101.29	3.41	149097.83	3.00	-0.00	0.00	0.00	0.09230
58	presto/tpcds: q59	24601703.44	308.02	24601366.23	462.68	-0.00	0.00	0.00	0.16810
48	presto/tpcds: q49	1946343.63	38.23	1946317.71	18.63	-0.00	0.00	0.00	0.16635
73	presto/tpcds: q74	52478643.21	920.39	52478096.41	505.51	-0.00	0.00	0.00	0.23096
7	presto/tpcds: q08	2576575.18	42.80	2576552.45	153.34	-0.00	0.00	0.01	0.73381
45	presto/tpcds: q46	1709669.37	6.71	1709663.92	3.53	-0.00	0.00	0.00	0.10848
38	presto/tpcds: q39	2357672.01	2.06	2357668.68	3.06	-0.00	0.00	0.00	0.05194
84	presto/tpcds: q85	13279229.45	4.02	13279224.36	5.63	-0.00	0.00	0.00	0.10181
24	presto/tpcds: q25	7658888.28	5.32	7658886.40	5.45	-0.00	0.00	0.00	0.55746
5	presto/tpcds: q06	1430657.52	1.52	1430657.19	2.08	-0.00	0.00	0.00	0.75990
78	presto/tpcds: q79	1842431.41	0.23	1842431.26	0.33	-0.00	0.00	0.00	0.38164
14	presto/tpcds: q15	1845619.55	105.34	1845619.46	158.44	-0.00	0.01	0.01	0.99911
72	presto/tpcds: q73	585099.28	0.01	585099.27	0.01	-0.00	0.00	0.00	0.23389
1	presto/tpcds: q02	104588181.10	1.12	104588180.55	1.08	-0.00	0.00	0.00	0.40622

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
42	presto/tpcds: q43	92382.40	0.00	92382.40	0.00	0.00	0.00	0.00	nan
61	presto/tpcds: q62	124405.62	0.00	124405.62	0.00	0.00	0.00	0.00	nan
46	presto/tpcds: q47	43167559.76	0.00	43167559.76	0.00	0.00	0.00	0.00	nan
41	presto/tpcds: q42	2778.25	0.00	2778.25	0.00	0.00	0.00	0.00	nan
47	presto/tpcds: q48	570742.83	0.00	570742.83	0.00	0.00	0.00	0.00	nan
40	presto/tpcds: q41	37.42	0.00	37.42	0.00	0.00	0.00	0.00	nan
60	presto/tpcds: q61	721080.55	0.00	721080.55	0.00	0.00	0.00	0.00	nan
51	presto/tpcds: q52	47588.59	0.00	47588.59	0.00	0.00	0.00	0.00	nan
52	presto/tpcds: q53	208581.40	0.00	208581.40	0.00	0.00	0.00	0.00	nan
54	presto/tpcds: q55	35726.13	0.00	35726.13	0.00	0.00	0.00	0.00	nan
62	presto/tpcds: q63	81253.60	0.00	81253.60	0.00	0.00	0.00	0.00	nan
65	presto/tpcds: q66	43210.33	0.00	43210.33	0.00	0.00	0.00	0.00	nan
98	presto/tpcds: q99	507819.09	0.00	507819.09	0.00	0.00	0.00	0.00	nan
35	presto/tpcds: q36	65153.53	0.00	65153.53	0.00	0.00	0.00	0.00	nan
2	presto/tpcds: q03	34609.43	0.00	34609.43	0.00	0.00	0.00	0.00	nan
95	presto/tpcds: q96	326.92	0.00	326.92	0.00	0.00	0.00	0.00	nan
94	presto/tpcds: q95	70659267.76	0.00	70659267.76	0.00	0.00	0.00	0.00	nan
93	presto/tpcds: q94	18804790.82	0.00	18804790.82	0.00	0.00	0.00	0.00	nan
8	presto/tpcds: q09	1625.35	0.00	1625.35	0.00	0.00	0.00	0.00	nan

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
89	presto/tpcds: q90	1598.93	0.00	1598.93	0.00	0.00	0.00	0.00	nan
88	presto/tpcds: q89	638103.41	0.00	638103.41	0.00	0.00	0.00	0.00	nan
12	presto/tpcds: q13	980697.07	0.00	980697.07	0.00	0.00	0.00	0.00	nan
15	presto/tpcds: q16	37703111.63	0.00	37703111.63	0.00	0.00	0.00	0.00	nan
87	presto/tpcds: q88	3544.58	0.00	3544.58	0.00	0.00	0.00	0.00	nan
85	presto/tpcds: q86	52011.43	0.00	52011.43	0.00	0.00	0.00	0.00	nan
20	presto/tpcds: q21	137212.56	0.00	137212.56	0.00	0.00	0.00	0.00	nan
21	presto/tpcds: q22	13408962.00	0.00	13408962.00	0.00	0.00	0.00	0.00	nan
81	presto/tpcds: q82	7282.41	0.00	7282.41	0.00	0.00	0.00	0.00	nan
27	presto/tpcds: q28	3181517.65	0.00	3181517.65	0.00	0.00	0.00	0.00	nan
69	presto/tpcds: q70	21771736.58	0.00	21771736.58	0.00	0.00	0.00	0.00	nan
68	presto/tpcds: q69	444383.50	0.00	444383.50	0.00	0.00	0.00	0.00	nan
36	presto/tpcds: q37	1471.84	0.00	1471.84	0.00	0.00	0.00	0.00	nan
56	presto/tpcds: q57	22303759.54	0.00	22303759.54	0.00	0.00	0.00	0.00	nan
49	presto/tpcds: q50	136397082.01	2.16	136397082.32	1.54	0.00	0.00	0.00	0.78385
33	presto/tpcds: q34	590700.37	0.00	590700.37	0.00	0.00	0.00	0.00	0.17395
92	presto/tpcds: q93	135743734.47	2.74	135743735.94	3.85	0.00	0.00	0.00	0.46374
28	presto/tpcds: q29	28116684.71	8.10	28116686.41	3.42	0.00	0.00	0.00	0.64579
67	presto/tpcds: q68	952284.17	0.30	952284.25	0.16	0.00	0.00	0.00	0.58244

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
3	presto/tpcds: q04	136140621.84	602.56	136140645.18	946.58	0.00	0.00	0.00	0.96035
16	presto/tpcds: q17	10638578.04	11.35	10638582.26	13.43	0.00	0.00	0.00	0.56987
23	presto/tpcds: q24	33130726.07	64.35	33130757.32	28.38	0.00	0.00	0.00	0.30194
37	presto/tpcds: q38	23793343.63	113.76	23793373.10	99.73	0.00	0.00	0.00	0.64352
44	presto/tpcds: q45	1688888.38	1.95	1688892.73	5.19	0.00	0.00	0.00	0.08407
10	presto/tpcds: q11	72539711.03	403.61	72540021.23	305.48	0.00	0.00	0.00	0.16422
86	presto/tpcds: q87	23793341.50	217.05	23793470.78	186.19	0.00	0.00	0.00	0.29407
34	presto/tpcds: q35	3506425.81	587.37	3506449.21	1062.65	0.00	0.02	0.03	0.96328
63	presto/tpcds: q64	804080649.66	5135.87	804086300.89	17815.96	0.00	0.00	0.00	0.47251
75	presto/tpcds: q76	170343.43	6.62	170346.07	6.08	0.00	0.00	0.00	0.48846
32	presto/tpcds: q33	846435.62	294.64	846450.41	146.21	0.00	0.03	0.02	0.91445
70	presto/tpcds: q71	5166780.22	855.80	5166875.32	794.14	0.00	0.02	0.02	0.84585
29	presto/tpcds: q30	2964044.45	109.62	2964117.03	28.84	0.00	0.00	0.00	0.14784
74	presto/tpcds: q75	58073174.56	40.41	58076960.30	63.94	0.01	0.00	0.00	0.00000
71	presto/tpcds: q72	183891063.57	25374.26	183911267.53	12377.02	0.01	0.01	0.01	0.11015
96	presto/tpcds: q97	20146030.37	0.00	20148609.71	142.75	0.01	0.00	0.00	0.00000
30	presto/tpcds: q31	13764022.28	1171.20	13766405.17	1908.20	0.02	0.01	0.01	0.02618
79	presto/tpcds: q80	300090942.45	76264.09	300152995.38	153058.70	0.02	0.03	0.05	0.39496
22	presto/tpcds: q23	451958176.83	24.77	452077822.44	341.88	0.03	0.00	0.00	0.00000

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
4	presto/tpcds: q05	220407900.94	101603.95	220487687.88	110242.59	0.04	0.05	0.05	0.22159
77	presto/tpcds: q78	387301783.89	199966.35	387491132.45	156214.82	0.05	0.05	0.04	0.09753
80	presto/tpcds: q81	5750417.31	60.46	5755362.12	1483.37	0.09	0.00	0.03	0.00001
64	presto/tpcds: q65	56202034.35	0.00	56267001.32	81.99	0.12	0.00	0.00	0.00000
50	presto/tpcds: q51	40453469.25	17.30	40512157.95	1792.86	0.15	0.00	0.00	0.00000
9	presto/tpcds: q10	310209.10	1804.61	310700.25	601.54	0.16	0.58	0.19	0.54128
0	presto/tpcds: q01	6266310.88	0.00	6280215.44	313.46	0.22	0.00	0.00	0.00000
19	presto/tpcds: q20	710376.66	0.00	713638.00	2745.14	0.46	0.00	0.38	0.01556
43	presto/tpcds: q44	716114.73	0.00	720262.21	8.34	0.58	0.00	0.00	0.00000
25	presto/tpcds: q26	685069.67	0.00	692366.74	20.13	1.07	0.00	0.00	0.00000
6	presto/tpcds: q07	1219402.24	0.00	1237205.73	179.72	1.46	0.00	0.01	0.00000
59	presto/tpcds: q60	1051509.66	784.34	1066865.19	296.05	1.46	0.07	0.03	0.00000
83	presto/tpcds: q84	19094.21	0.05	19471.55	584.54	1.98	0.00	3.00	0.14491
11	presto/tpcds: q12	465953.93	0.00	477987.75	187.62	2.58	0.00	0.04	0.00000
57	presto/tpcds: q58	1745995.64	5453.60	1816102.80	16323.72	4.02	0.31	0.90	0.00000
97	presto/tpcds: q98	1503062.23	0.56	1585405.09	428.18	5.48	0.00	0.03	0.00000
91	presto/tpcds: q92	959343.12	0.00	1019783.73	1313.73	6.30	0.00	0.13	0.00000
31	presto/tpcds: q32	1716030.87	0.00	2046042.64	10507.22	19.23	0.00	0.51	0.00000

```
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min      -2
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25%   0
50%   0
75%   0
max   19
Name: % change, dtype: float64

TPC-H Comparison (Peak memory)
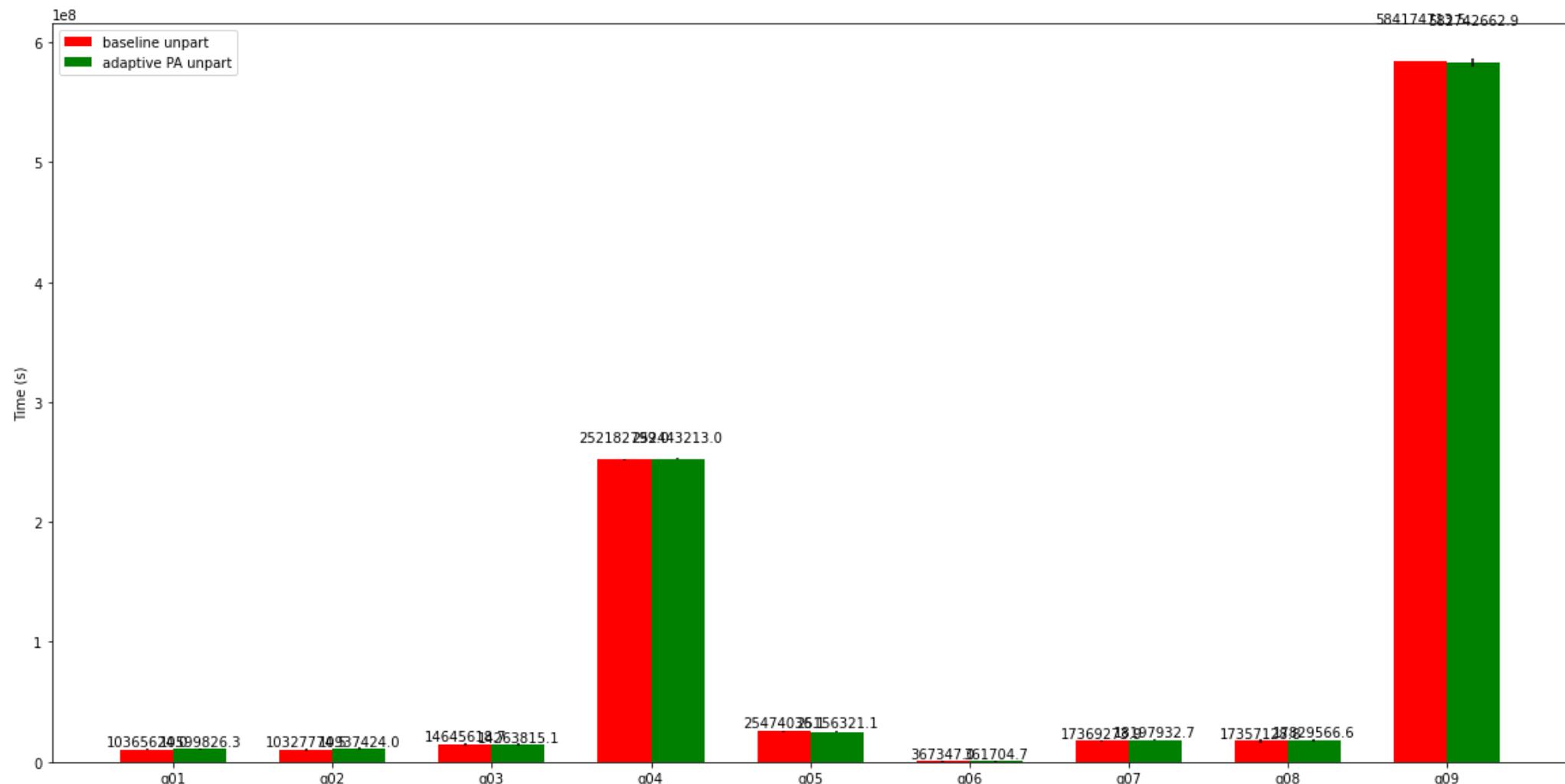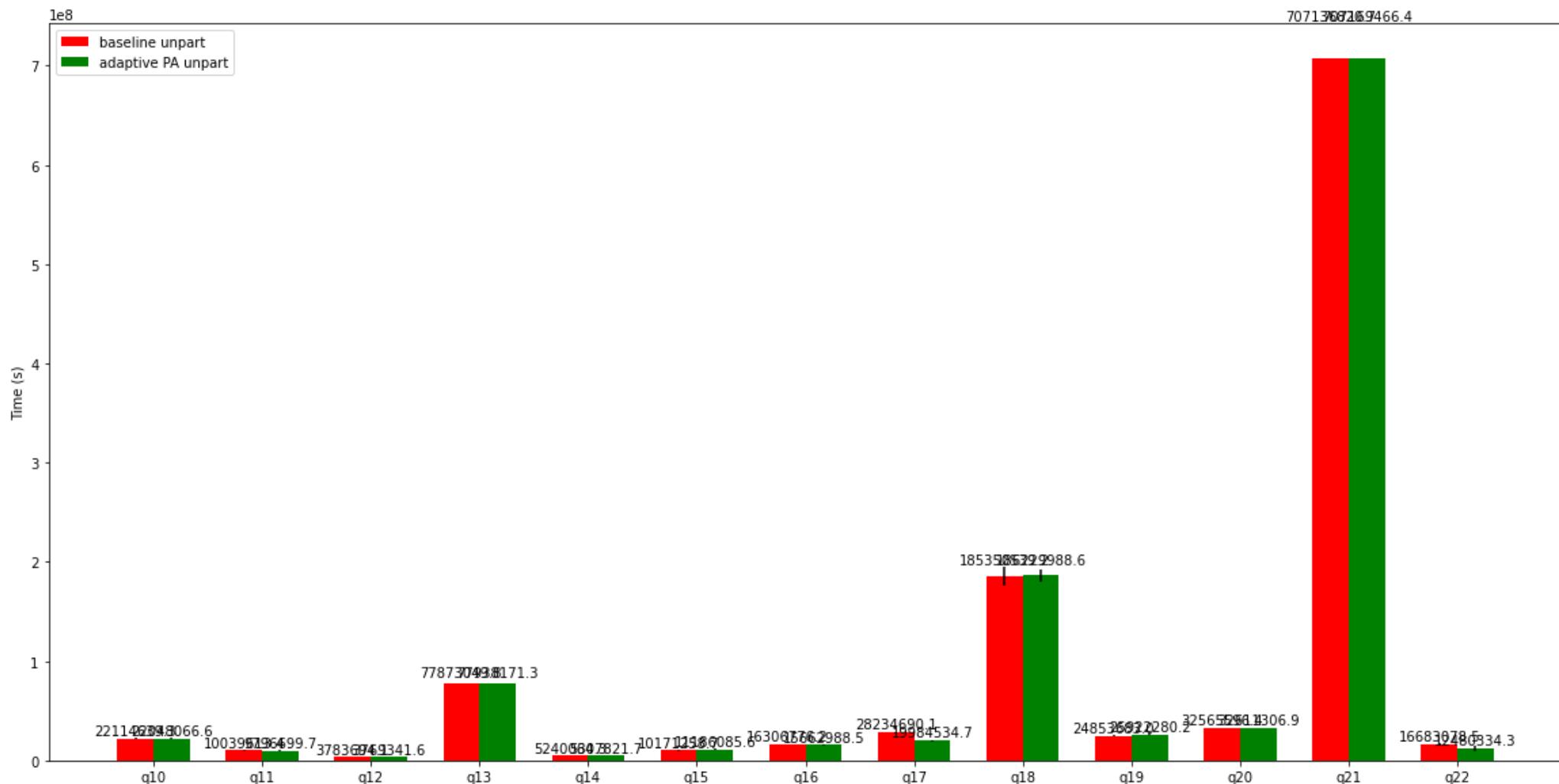
|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
16	presto/tpch: q17	28234690.14	629967.41	19984534.68	815329.38	-29.22	2.23	4.08	0.00000
21	presto/tpch: q22	16683078.53	1314441.60	12480334.28	2631887.02	-25.19	7.88	21.09	0.00573
15	presto/tpch: q16	16306776.22	158515.89	15662988.51	241497.81	-3.95	0.97	1.54	0.00028
2	presto/tpch: q03	14645618.66	924684.00	14263815.09	1105134.90	-2.61	6.31	7.75	0.53094
10	presto/tpch: q11	10039613.36	780164.36	9796699.66	596921.48	-2.42	7.77	6.09	0.55820

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
5	presto/tpch: q06	367346.99	70872.50	361704.74	94490.36	-1.54	19.29	26.12	0.90917
4	presto/tpch: q05	25474036.06	270811.27	25156321.12	245717.39	-1.25	1.06	0.98	0.05920
11	presto/tpch: q12	3783694.12	70748.86	3769341.57	53011.76	-0.38	1.87	1.41	0.69923
9	presto/tpch: q10	22114639.30	601849.61	22048066.56	341608.42	-0.30	2.72	1.55	0.81847
8	presto/tpch: q09	584174713.48	169505.97	582742662.91	3471382.79	-0.25	0.03	0.60	0.33663
20	presto/tpch: q21	707136820.71	31251.34	707169466.41	17341.52	0.00	0.00	0.00	0.04922
12	presto/tpch: q13	77873049.84	46380.71	77938171.35	52298.08	0.08	0.06	0.07	0.04563
3	presto/tpch: q04	252182799.00	546710.16	252443212.97	562472.45	0.10	0.22	0.22	0.43503
19	presto/tpch: q20	32565596.39	345961.22	32611306.86	509068.47	0.14	1.06	1.56	0.85929
17	presto/tpch: q18	185350539.23	9659110.50	186229988.61	6490380.36	0.47	5.21	3.49	0.85684
13	presto/tpch: q14	5240064.30	110129.24	5307821.70	83216.27	1.29	2.10	1.57	0.25691
0	presto/tpch: q01	10365624.04	284543.30	10599826.31	250369.93	2.26	2.75	2.36	0.16107
7	presto/tpch: q08	17357128.78	1460549.31	17829566.56	1249947.72	2.72	8.41	7.01	0.56059
18	presto/tpch: q19	24853682.97	1187732.40	25922280.16	697041.90	4.30	4.78	2.69	0.08653
6	presto/tpch: q07	17369273.90	742832.25	18197932.74	543954.38	4.77	4.28	2.99	0.05203
1	presto/tpch: q02	10327774.48	1056879.47	10937424.01	900113.31	5.90	10.23	8.23	0.30733
14	presto/tpch: q15	10171258.68	447314.46	11186085.56	820856.54	9.98	4.40	7.34	0.02394

```
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mean     -2
std       9
min     -29
25%      -1
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75%       2
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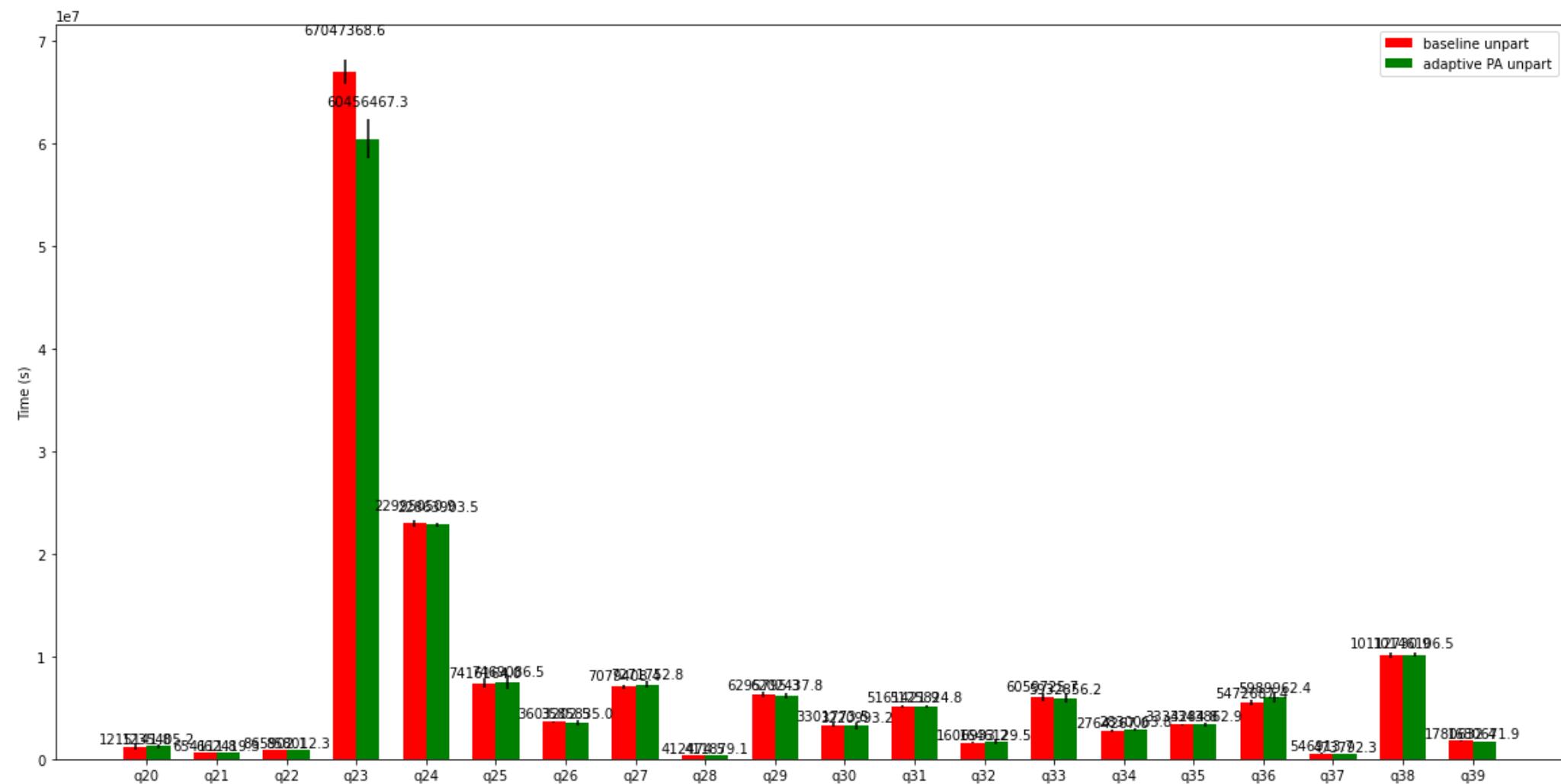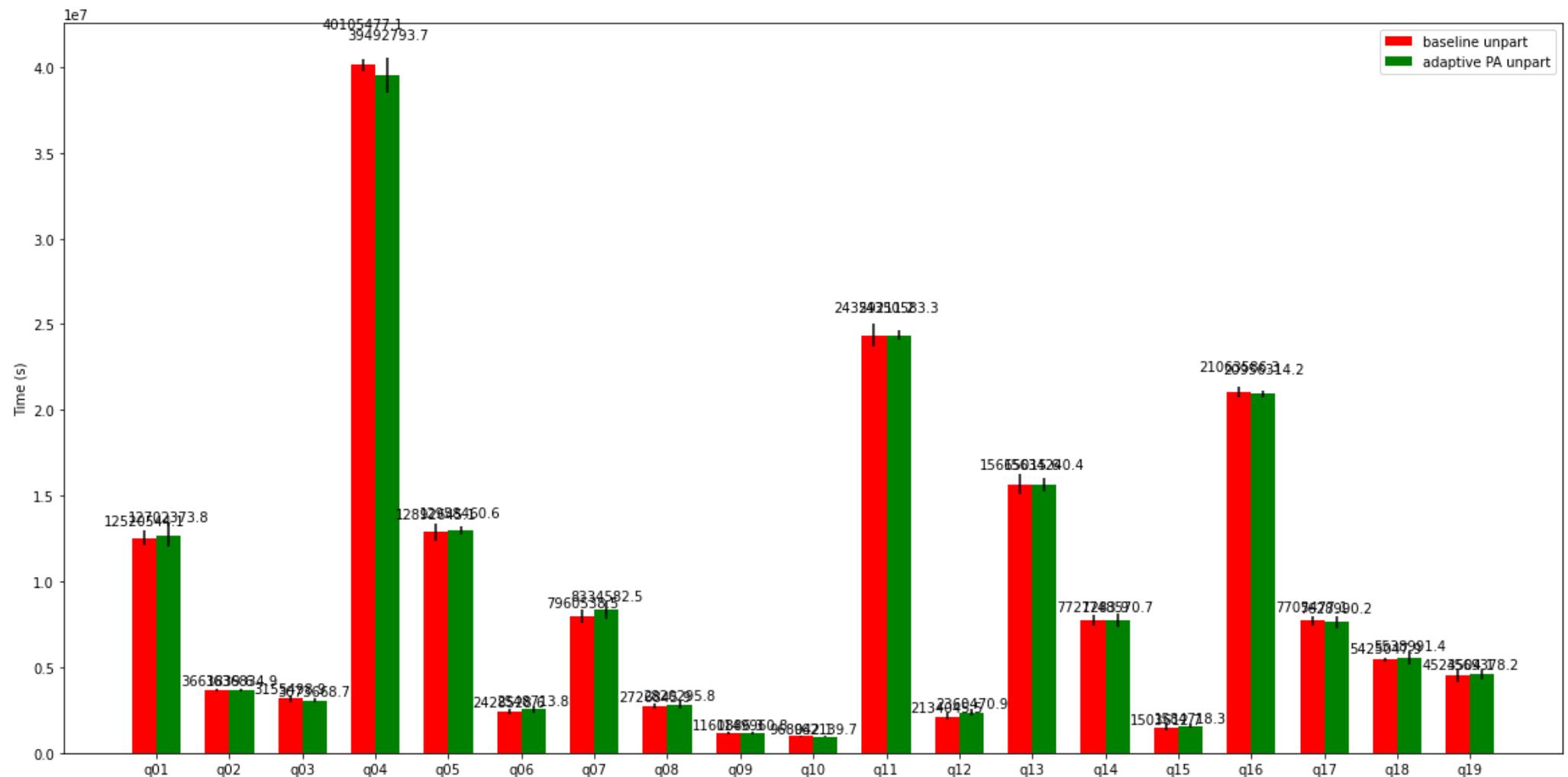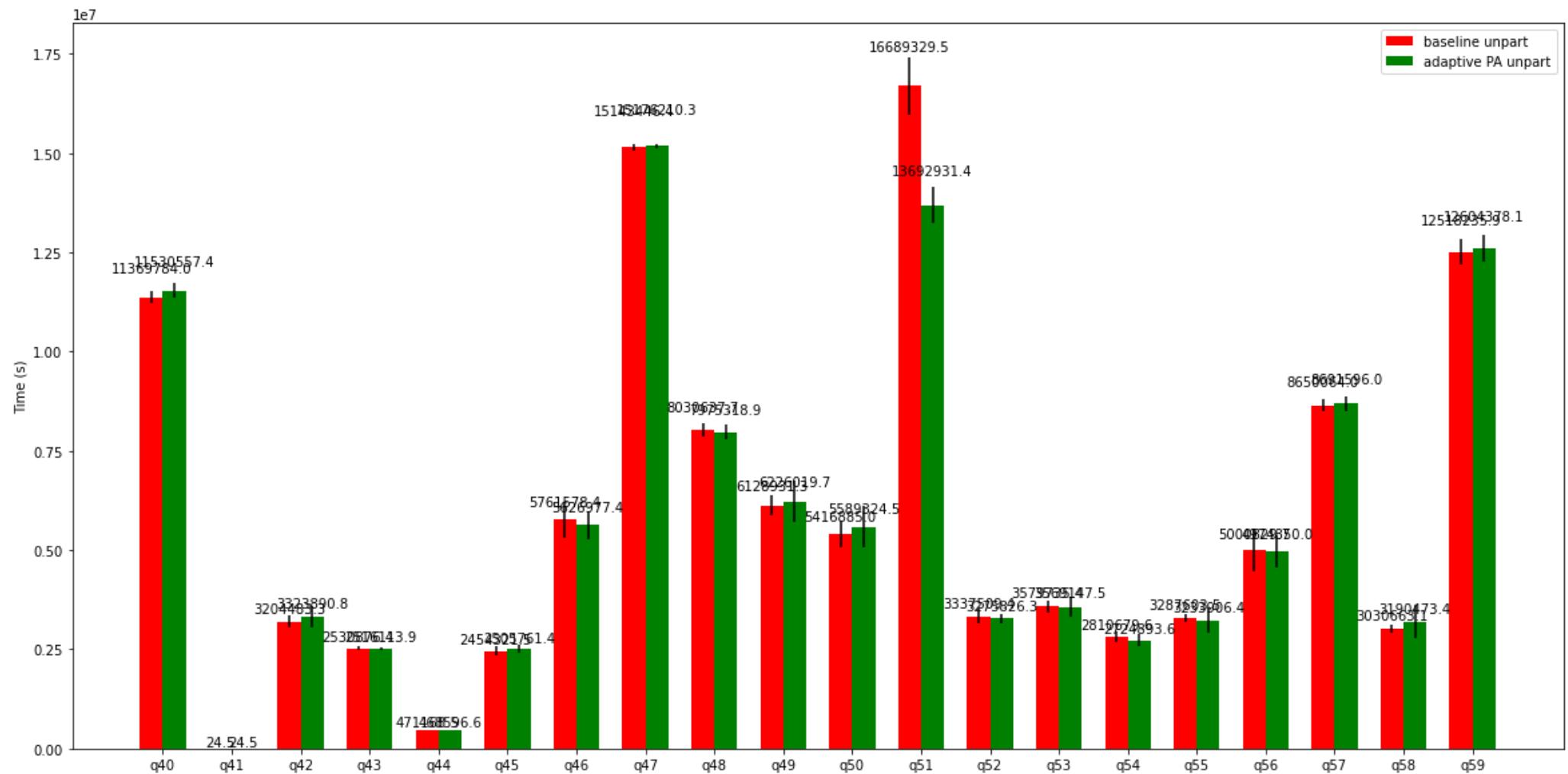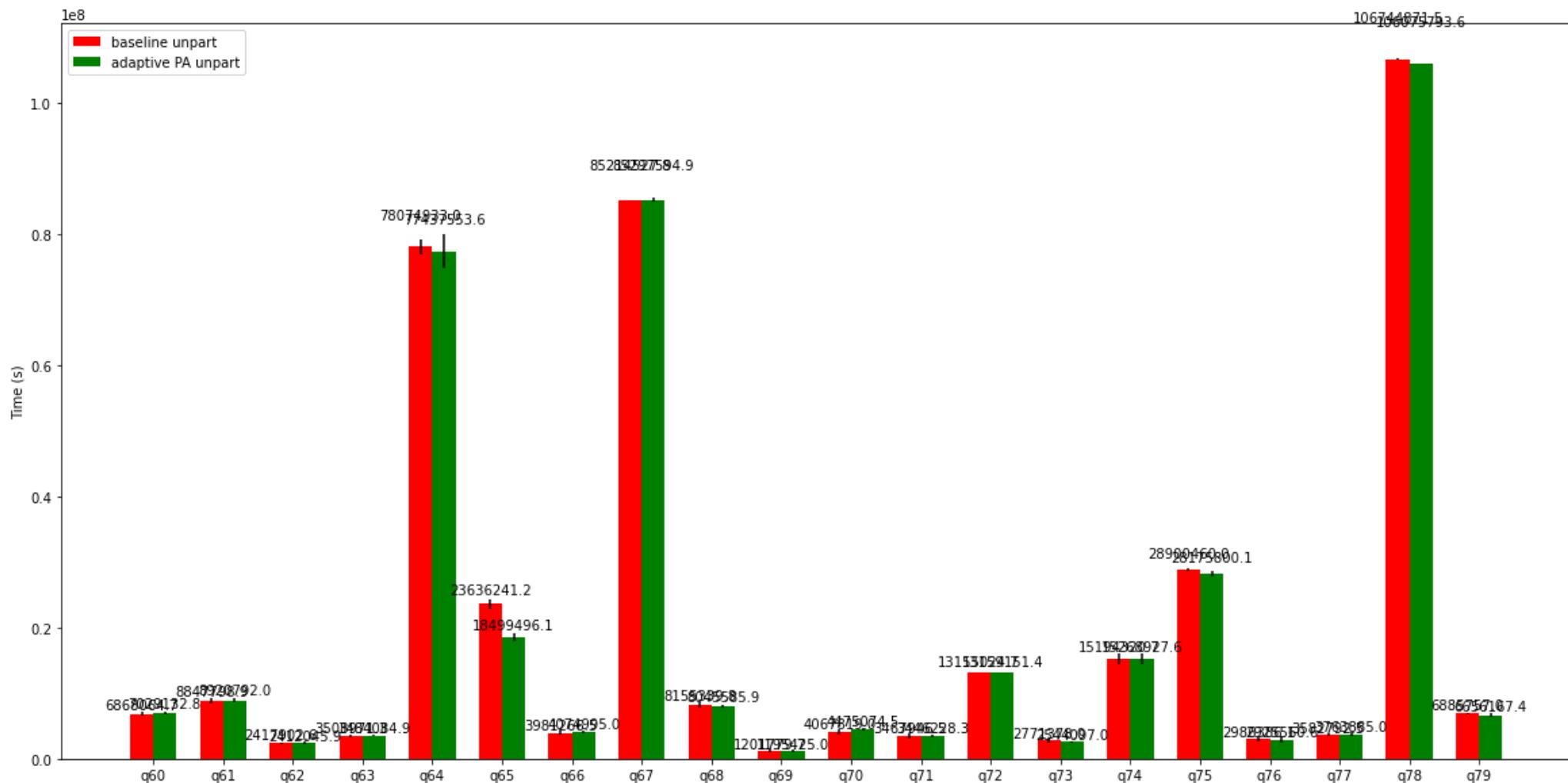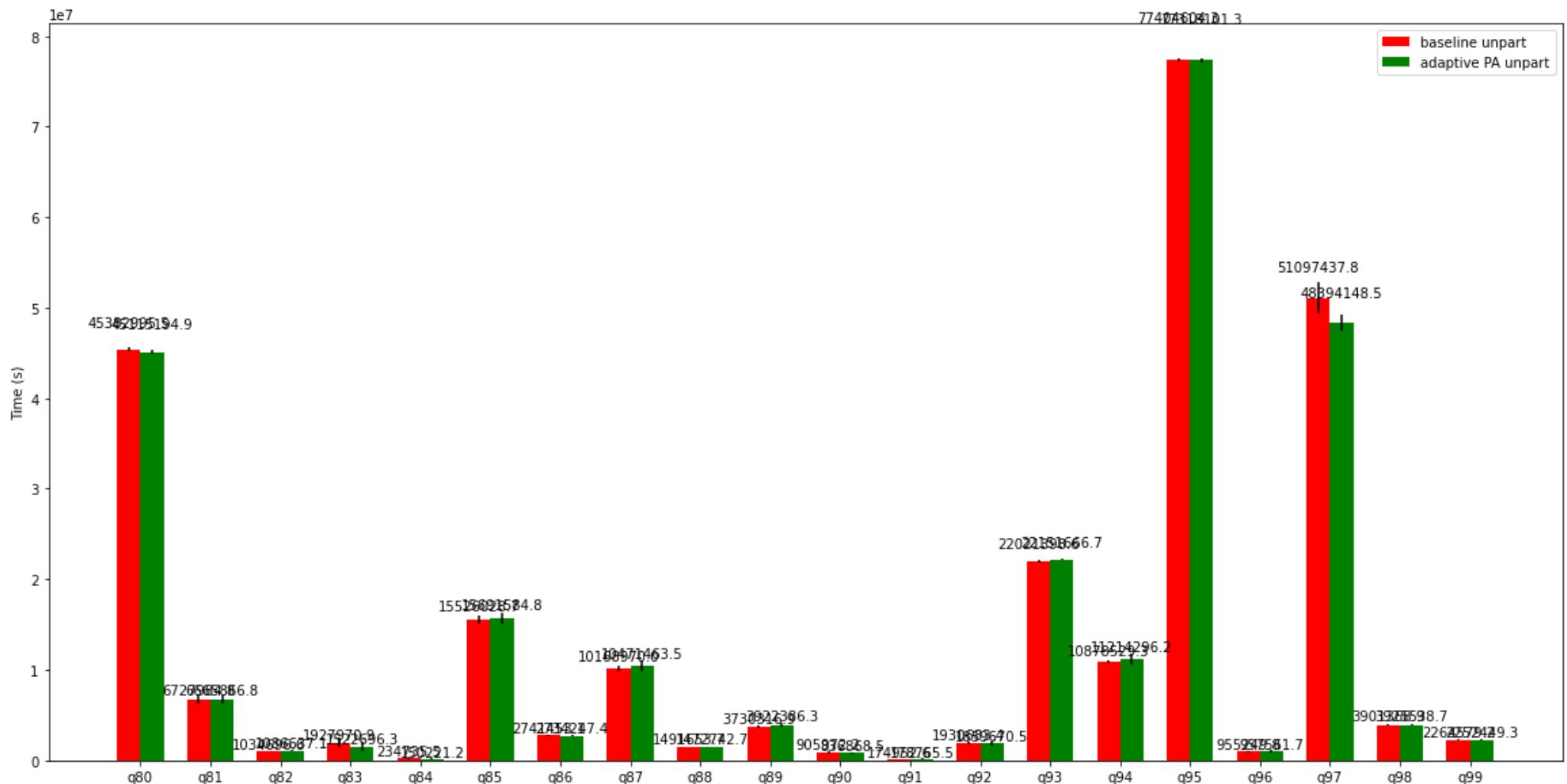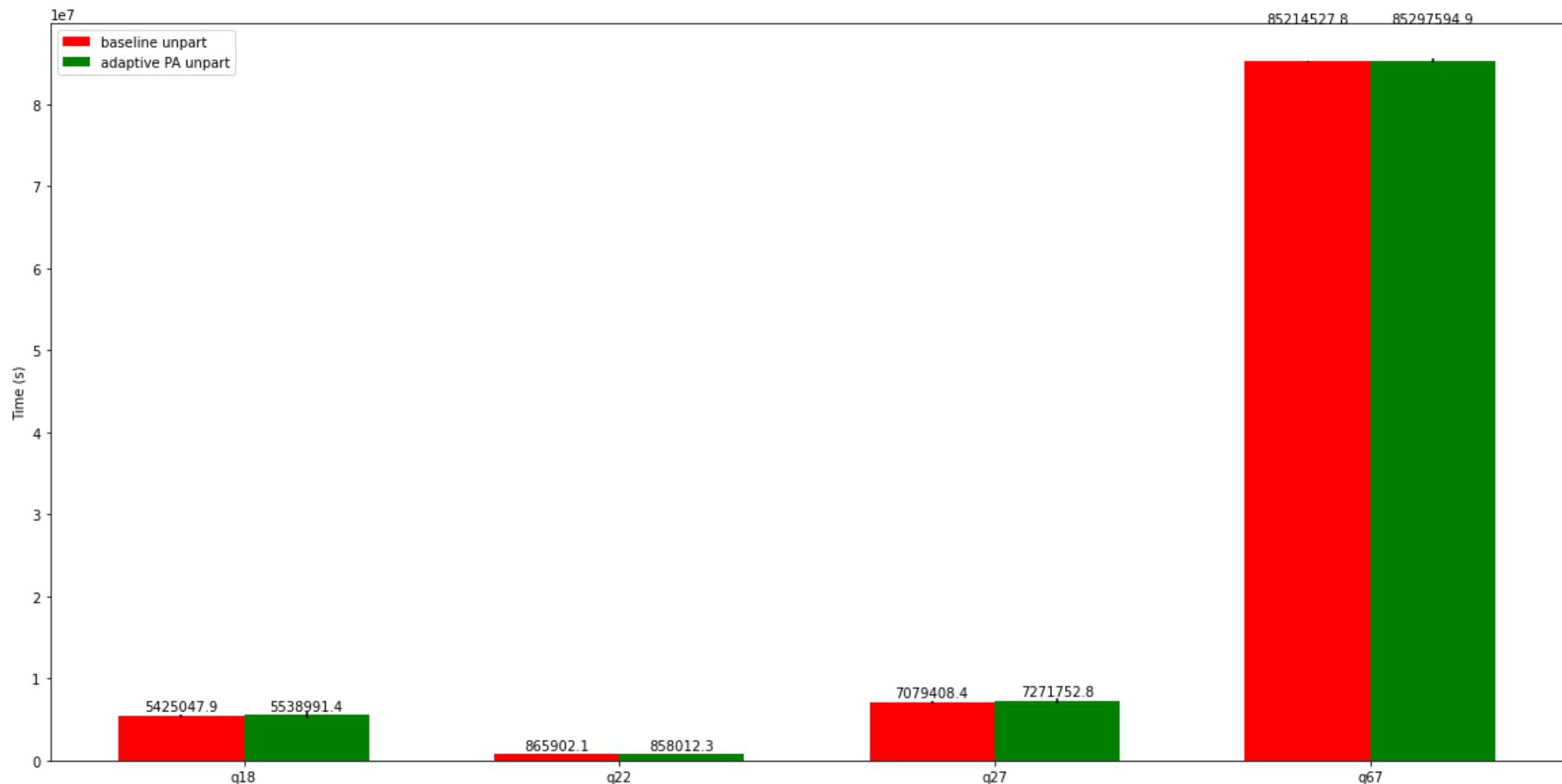
TPC-DS Comparison (Peak memory)

|	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
83	presto/tpcds: q84	234735.46	101283.10	150221.25	57212.64	-36.00	43.15	38.09	0.10549
64	presto/tpcds: q65	23636241.23	738894.20	18499496.13	658577.94	-21.73	3.13	3.56	0.00000
82	presto/tpcds: q83	1927970.85	532362.04	1522696.28	574372.32	-21.02	27.61	37.72	0.23366
50	presto/tpcds: q51	16689329.54	719496.34	13692931.37	458296.81	-17.95	4.31	3.35	0.00001
36	presto/tpcds: q37	546913.72	97689.11	473792.27	30749.29	-13.37	17.86	6.49	0.11088

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
22	presto/tpcds: q23	67047368.63	1149023.38	60456467.33	1918570.11	-9.83	1.71	3.17	0.00003
72	presto/tpcds: q73	2771377.97	263120.62	2544097.01	80760.47	-8.20	9.49	3.17	0.07066
89	presto/tpcds: q90	905972.20	171258.90	836868.52	103289.08	-7.63	18.90	12.34	0.41714
38	presto/tpcds: q39	1780632.38	54771.52	1680671.92	32250.80	-5.61	3.08	1.92	0.00320
96	presto/tpcds: q97	51097437.83	1698522.21	48394148.54	896195.09	-5.29	3.32	1.85	0.00625
91	presto/tpcds: q92	1930683.37	181946.28	1859670.48	205950.35	-3.68	9.42	11.07	0.54096
78	presto/tpcds: q79	6885756.97	130723.50	6656167.41	220077.25	-3.33	1.90	3.31	0.05271
53	presto/tpcds: q54	2810679.56	141556.76	2724893.59	152134.41	-3.05	5.04	5.58	0.33576
2	presto/tpcds: q03	3155498.90	163344.97	3073668.66	83989.98	-2.59	5.18	2.73	0.30074
74	presto/tpcds: q75	28900460.02	167575.92	28175800.15	450378.40	-2.51	0.58	1.60	0.00415
29	presto/tpcds: q30	3301773.55	226472.68	3220993.24	288342.86	-2.45	6.86	8.95	0.60123
45	presto/tpcds: q46	5761578.37	466255.78	5626977.44	362725.62	-2.34	8.09	6.45	0.58903
32	presto/tpcds: q33	6059725.71	424133.39	5932856.21	448171.01	-2.09	7.00	7.55	0.62543
75	presto/tpcds: q76	2986386.06	343339.73	2925560.57	441487.15	-2.04	11.50	15.09	0.79534
51	presto/tpcds: q52	3337509.40	171504.72	3275826.26	126591.34	-1.85	5.14	3.86	0.49464
54	presto/tpcds: q55	3287603.51	111268.03	3233906.40	314144.43	-1.63	3.38	9.71	0.70137
3	presto/tpcds: q04	40105477.13	319151.84	39492793.74	1030740.21	-1.53	0.80	2.61	0.19444
28	presto/tpcds: q29	6295795.32	242156.84	6202437.78	284903.08	-1.48	3.85	4.59	0.55446
67	presto/tpcds: q68	8155339.81	409152.78	8045585.87	265562.62	-1.35	5.02	3.30	0.59363

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
87	presto/tpcds: q88	1491653.65	35322.02	1472742.74	36130.55	-1.27	2.37	2.45	0.38084
16	presto/tpcds: q17	7705477.08	252403.64	7628990.21	353378.01	-0.99	3.28	4.63	0.67531
8	presto/tpcds: q09	1160886.32	87954.46	1149960.80	93348.51	-0.94	7.58	8.12	0.83890
80	presto/tpcds: q81	6727984.80	440386.24	6665866.79	447769.33	-0.92	6.55	6.72	0.81347
21	presto/tpcds: q22	865902.08	7898.73	858012.32	4151.29	-0.91	0.91	0.48	0.05556
63	presto/tpcds: q64	78074932.97	1050784.12	77437553.62	2586594.72	-0.82	1.35	3.34	0.58832
62	presto/tpcds: q63	3508971.33	183667.28	3484084.85	119258.12	-0.71	5.23	3.42	0.78640
30	presto/tpcds: q31	5161421.93	124550.41	5125824.83	164644.16	-0.69	2.41	3.21	0.68170
47	presto/tpcds: q48	8030637.68	158832.83	7975318.85	186548.60	-0.69	1.98	2.34	0.59237
1	presto/tpcds: q02	3661839.65	48305.43	3636834.90	83930.81	-0.68	1.32	2.31	0.54126
77	presto/tpcds: q78	106744871.48	102586.41	106075793.59	25659.67	-0.63	0.10	0.02	0.00000
70	presto/tpcds: q71	3467946.47	410679.05	3446228.29	262978.67	-0.63	11.84	7.63	0.91529
9	presto/tpcds: q10	968042.10	42722.84	962139.68	31956.91	-0.61	4.41	3.32	0.79191
79	presto/tpcds: q80	45382995.46	199777.20	45115194.91	248737.21	-0.59	0.44	0.55	0.06682
42	presto/tpcds: q43	2530876.45	63776.99	2516113.86	48766.04	-0.58	2.52	1.94	0.66202
23	presto/tpcds: q24	22995050.89	357148.80	22863903.47	205539.64	-0.57	1.55	0.90	0.45369
43	presto/tpcds: q44	471168.52	5030.16	468596.65	540.33	-0.55	1.07	0.12	0.24143
98	presto/tpcds: q99	2264579.16	63457.51	2252449.29	102414.23	-0.54	2.80	4.55	0.81020
68	presto/tpcds: q69	1201779.68	191767.95	1195425.01	162728.88	-0.53	15.96	13.61	0.95187

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
55	presto/tpcds: q56	5000829.73	535805.79	4974849.99	403343.23	-0.52	10.71	8.11	0.92628
15	presto/tpcds: q16	21063586.26	308948.72	20956314.19	190869.10	-0.51	1.47	0.91	0.48592
25	presto/tpcds: q26	3603202.46	117756.14	3585834.96	273301.06	-0.48	3.27	7.62	0.88917
52	presto/tpcds: q53	3579735.45	141407.33	3569147.50	242449.78	-0.30	3.95	6.79	0.92820
85	presto/tpcds: q86	2741453.06	84503.13	2734247.38	84909.23	-0.26	3.08	3.11	0.88579
61	presto/tpcds: q62	2417902.58	92779.55	2412045.95	156044.44	-0.24	3.84	6.47	0.93857
12	presto/tpcds: q13	15665015.57	586994.86	15634240.42	401307.80	-0.20	3.75	2.57	0.91767
27	presto/tpcds: q28	412474.49	6440.03	411879.14	3886.74	-0.14	1.56	0.94	0.85016
40	presto/tpcds: q41	24.51	0.02	24.48	0.08	-0.14	0.10	0.32	0.33415
94	presto/tpcds: q95	77404604.25	103543.92	77318101.31	202461.82	-0.11	0.13	0.26	0.37340
10	presto/tpcds: q11	24359211.21	640991.31	24350583.30	269789.82	-0.04	2.63	1.11	0.97635
71	presto/tpcds: q72	13155024.71	60961.86	13159151.35	57741.68	0.03	0.46	0.44	0.90656
66	presto/tpcds: q67	85214527.80	76685.83	85297594.94	259255.73	0.10	0.09	0.30	0.46904
46	presto/tpcds: q47	15143446.44	80526.65	15176210.28	64998.45	0.22	0.53	0.43	0.45598
95	presto/tpcds: q96	955249.82	52554.24	957561.65	141736.18	0.24	5.50	14.80	0.97085
34	presto/tpcds: q35	3334284.84	109659.49	3343862.95	222419.48	0.29	3.29	6.65	0.92649
37	presto/tpcds: q38	10112730.87	227832.62	10146106.53	198351.23	0.33	2.25	1.95	0.79217
13	presto/tpcds: q14	7721283.94	318449.20	7748570.74	402907.60	0.35	4.12	5.20	0.89903
56	presto/tpcds: q57	8650064.03	166051.89	8691595.99	192635.87	0.48	1.92	2.22	0.69756

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
73	presto/tpcds: q74	15194320.72	801578.33	15268927.61	827874.83	0.49	5.28	5.42	0.87715
4	presto/tpcds: q05	12892645.13	503447.47	12958460.63	247587.55	0.51	3.90	1.91	0.77971
92	presto/tpcds: q93	22021398.63	163287.10	22151666.71	59840.02	0.59	0.74	0.27	0.09641
97	presto/tpcds: q98	3901368.87	94448.25	3925538.68	59832.54	0.62	2.42	1.52	0.60800
58	presto/tpcds: q59	12518235.89	332993.24	12604378.05	320844.31	0.69	2.66	2.55	0.65792
24	presto/tpcds: q25	7416164.04	453552.87	7469086.52	620234.11	0.71	6.12	8.30	0.86939
60	presto/tpcds: q61	8847798.93	375641.64	8920792.04	377256.32	0.82	4.25	4.23	0.74393
18	presto/tpcds: q19	4523504.14	400567.01	4569378.21	302229.50	1.01	8.86	6.61	0.82732
84	presto/tpcds: q85	15526028.74	427914.67	15691584.78	561374.74	1.07	2.76	3.58	0.57832
20	presto/tpcds: q21	654111.77	13337.04	662419.32	8673.76	1.27	2.04	1.31	0.22976
39	presto/tpcds: q40	11369783.98	153155.13	11530557.38	186537.02	1.41	1.35	1.62	0.13380
0	presto/tpcds: q01	12520544.07	429554.68	12702373.83	688613.88	1.45	3.43	5.42	0.59520
48	presto/tpcds: q49	6128931.25	240828.90	6226019.70	524782.56	1.58	3.93	8.43	0.68912
19	presto/tpcds: q20	1215141.79	279317.23	1235405.23	146888.12	1.67	22.99	11.89	0.87816
44	presto/tpcds: q45	2454321.48	119267.91	2505761.44	98173.53	2.10	4.86	3.92	0.43369
17	presto/tpcds: q18	5425047.91	117176.74	5538991.43	397309.53	2.10	2.16	7.17	0.51572
90	presto/tpcds: q91	174952.61	13013.65	178765.54	22722.11	2.18	7.44	12.71	0.72874
59	presto/tpcds: q60	6868064.69	262879.41	7029132.77	157049.35	2.35	3.83	2.23	0.22662
65	presto/tpcds: q66	3981266.52	270799.26	4074994.96	248788.29	2.35	6.80	6.11	0.54639

	query	baseline unpart mean	baseline unpart std.dev	adaptive PA unpart mean	adaptive PA unpart std.dev	% change	baseline unpart std.dev %	adaptive PA unpart std.dev %	p-value
33	presto/tpcds: q34	2764266.96	131827.11	2830063.84	151960.43	2.38	4.77	5.37	0.44167
31	presto/tpcds: q32	1606933.24	56879.13	1646129.53	248212.92	2.44	3.54	15.08	0.71402
26	presto/tpcds: q27	7079408.36	191466.15	7271752.81	371662.01	2.72	2.70	5.11	0.28609
86	presto/tpcds: q87	10168969.98	250533.77	10471463.49	566692.25	2.97	2.46	5.41	0.25934
93	presto/tpcds: q94	10878529.31	166448.35	11214296.16	642939.57	3.09	1.53	5.73	0.24386
49	presto/tpcds: q50	5416885.00	342288.32	5589324.52	528648.04	3.18	6.32	9.46	0.51761
7	presto/tpcds: q08	2726845.93	165625.43	2820295.77	231554.64	3.43	6.07	8.21	0.44007
41	presto/tpcds: q42	3204483.30	161200.29	3323890.80	263480.07	3.73	5.03	7.93	0.36600
6	presto/tpcds: q07	7960538.51	411776.55	8334582.54	492708.13	4.70	5.17	5.91	0.18409
5	presto/tpcds: q06	2428528.65	175332.01	2548713.81	201292.86	4.95	7.22	7.90	0.29594
81	presto/tpcds: q82	1034696.58	54431.99	1086637.09	79719.02	5.02	5.26	7.34	0.21689
76	presto/tpcds: q77	3582792.54	194198.52	3763885.00	233446.53	5.05	5.42	6.20	0.17477
88	presto/tpcds: q89	3730316.92	141777.49	3922386.31	181978.16	5.15	3.80	4.64	0.06871
57	presto/tpcds: q58	3030663.09	104978.64	3190473.43	420088.42	5.27	3.46	13.17	0.38724
14	presto/tpcds: q15	1503612.71	165619.35	1584718.33	96653.64	5.39	11.01	6.10	0.32459
35	presto/tpcds: q36	5472687.36	289546.23	5989962.39	525755.39	9.45	5.29	8.78	0.06094
69	presto/tpcds: q70	4067819.00	362718.26	4475074.54	271451.07	10.01	8.92	6.07	0.05227
11	presto/tpcds: q12	2134045.51	217287.82	2360470.89	174933.16	10.61	10.18	7.41	0.07484

```
count    99
mean     -1
std       6
min     -36
```

```
25%        -1
50%        -0
75%         2
max        11
Name: % change, dtype: float64
```