

Performance of MPI Implementation of Trap Rule

Runtimes (ms) n

p	n	10,000	100,000	1,000,000	10,000,000	100,000,000
1	1	1.120	10.70	107.00	1070.0	10800
2	2	0.608	5.60	55.60	555.0	5680
4	4	0.495	3.04	30.10	305.0	3060
8	8	0.644	1.80	17.30	172.0	1770
16	16	0.603	1.19	8.94	88.4	884

Speedups n

p	n	10,000	100,000	1,000,000	10,000,000	100,000,000
1	1	1.00	1.00	1.00	1.00	1.00
2	2	1.84	1.91	1.92	1.93	1.90
4	4	2.26	3.52	3.55	3.51	3.53
8	8	1.74	5.94	6.18	6.22	6.10
16	16	1.86	8.99	11.97	12.10	12.22

Efficiencies n

p	n	10,000	100,000	1,000,000	10,000,000	100,000,000
1	1	1.00	1.00	1.00	1.00	1.00
2	2	0.92	0.96	0.96	0.96	0.95
4	4	0.57	0.88	0.89	0.88	0.88
8	8	0.22	0.74	0.77	0.78	0.76
16	16	0.12	0.56	0.75	0.76	0.76