values

Strong Scaling Benchmark

Type	Bodies	Threads	avg(time)/step (ms)	Speedup	Strong Scaling Efficiency
Serial	100	1	0.076334	1	100.00%
strong/Parallel	100	2	0.075613	1.009535	50.48%
strong/Parallel	100	4	0.081775	0.933464	23.34%
strong/Parallel	100	8	0.11031	0.691995	8.65%
strong/Parallel	100	16	2.174452	0.035105	0.22%
Serial	1000	1	7.276161	1	100.00%
strong/Parallel	1000	2	4.244702	1.714175	85.71%
strong/Parallel	1000	4	2.294433	3.171224	79.28%
strong/Parallel	1000	8	1.609559	4.520593	56.51%
strong/Parallel	1000	16	3.757233	1.936574	12.10%
Serial	10000	1	727.079904	1	100.00%
strong/Parallel	10000	2	367.63911	1.9777	98.89%
strong/Parallel	10000	4	184.098813	3.9494	98.74%
strong/Parallel	10000	8	92.246404	7.881932	98.52%
strong/Parallel	10000	16	92.196727	7.886179	49.29%

Weak Scaling Benchmark (# of bodies increases by 2)

Type	Bodies	Threads	avg(time)/step (ms)	Weak Scaling Efficiency
Serial	100	1	0.076334	100.00%
weak/Parallel	200	2	0.232836	32.78%
weak/Parallel	400	4	0.726411	10.51%
weak/Parallel	800	8	1.053462	7.25%
weak/Parallel	1600	16	4.660784	1.64%
Serial	1000	1	7.276161	100.00%
weak/Parallel	2000	2	15.091997	48.21%
weak/Parallel	4000	4	29.828478	24.39%
weak/Parallel	8000	8	59.200965	12.29%
weak/Parallel	16000	16	217.635418	3.34%

**Weak Scaling Benchmark (# of bodies increases by sqrt(# of threads))**

Type	Bodies	Threads	avg(time)/step (ms)	Weak Scaling Efficiency
Serial	100	1	0.076334	100.00%
weak/Parallel	141	2	0.105126	72.61%
weak/Parallel	200	4	0.208851	36.55%
weak/Parallel	282	8	0.463093	16.48%
weak/Parallel	400	16	3.175723	2.40%
Serial	1000	1	7.276161	100.00%
weak/Parallel	1414	2	7.78771	93.43%
weak/Parallel	2000	4	7.756429	93.81%
weak/Parallel	2828	8	7.653985	95.06%
weak/Parallel	4000	16	17.242676	42.20%
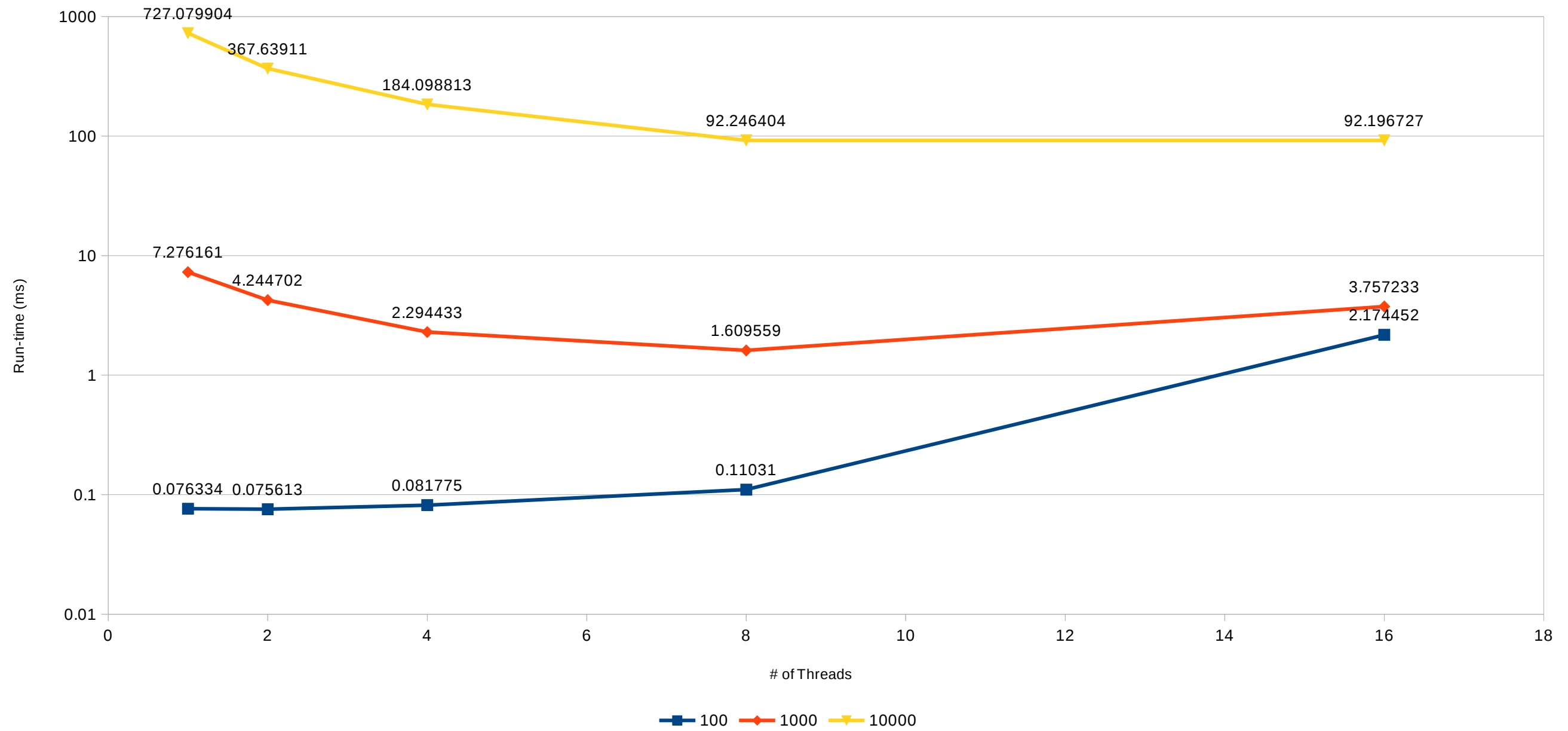
Run-time vs # of threads

Strong Scaling Efficiency vs # of Threads
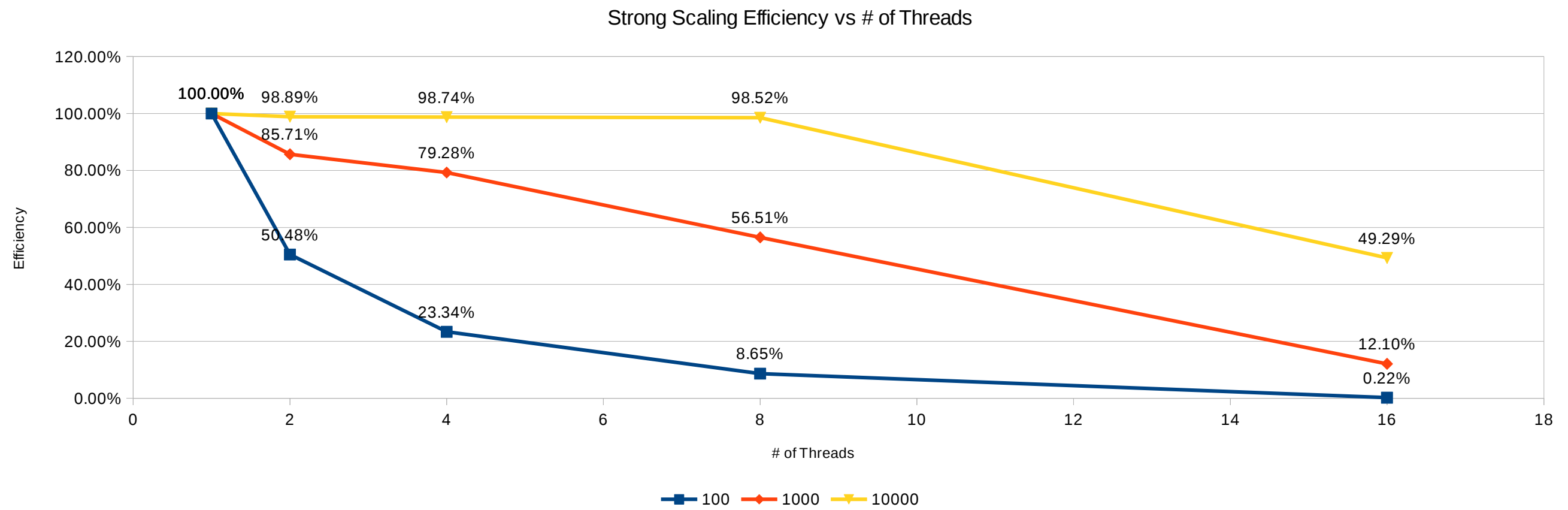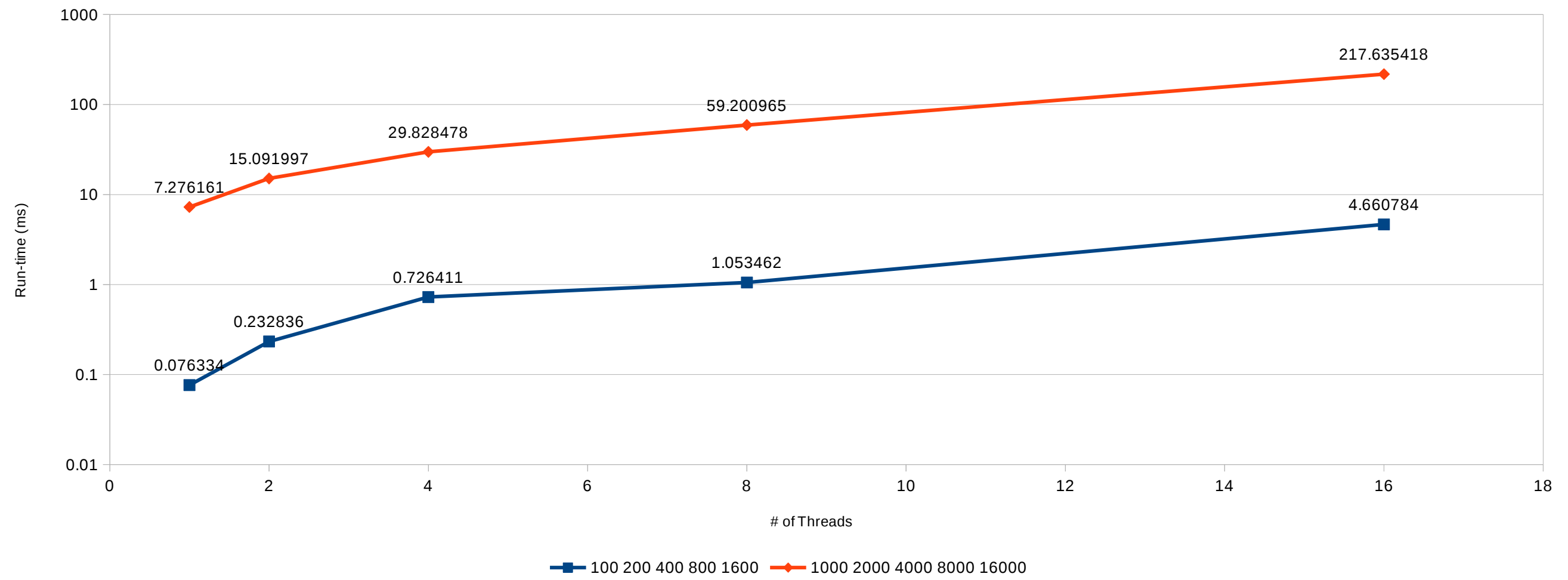
Run-time vs # of Threads

Weak Scaling Efficiency vs # of Threads
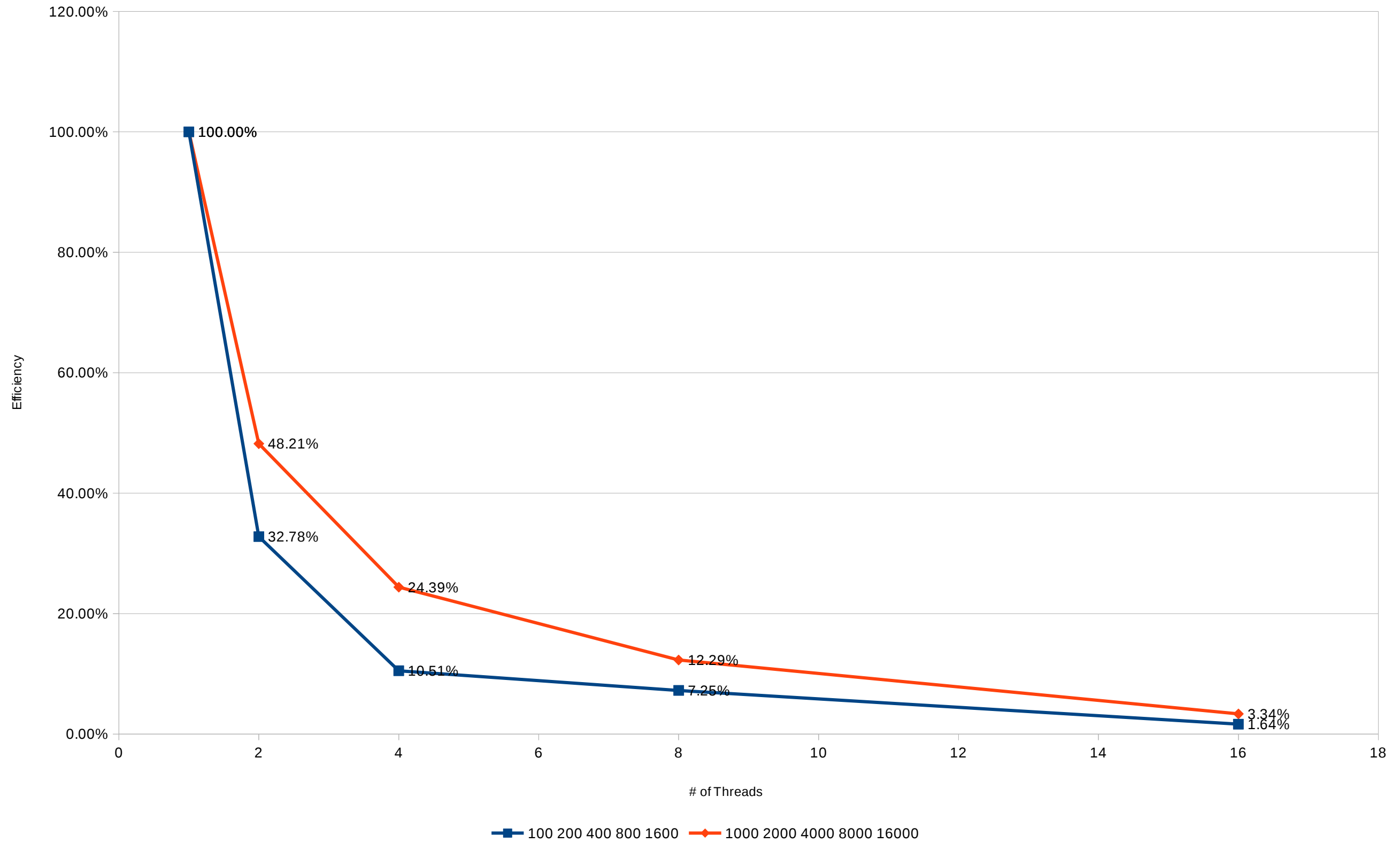
Run-time vs # of Threads

of bodies increasing as sqrt(# of threads)

Weak Scaling Efficiency vs # of Threads