Heat DISTRIBUTION 2D jacobi iteration

128x128   in seconds for operation   SPEEDUP = Ts / Tp

Cores	100	250	500	1000	avg. sp-up	Cores	100	250	500	1000
1	0.138	0.344	0.688	1.379	1	1	1	1	1	1
4	0.069	0.172	0.336	0.681	2.018146	4	2	2	2.047619	2.024963
8	0.061	0.154	0.309	0.612	2.243967	8	2.262295	2.233766	2.226537	2.253268
16	0.102	0.255	0.511	1.027	1.347772	16	1.352941	1.34902	1.34638	1.342746
32	0.192	0.451	0.952	1.862	0.736198	32	0.71875	0.762749	0.722689	0.740602
64	0.369	0.997	2.653	3.946	0.331954	64	0.373984	0.345035	0.259329	0.349468

512x512   in seconds for operation

Cores	100	250	500	1000	avg. sp-up	Cores	100	250	500	1000
1	3.62	9.125	18.12	36.15	1	1	1	1	1	1
4	1.455	3.653	7.23	14.53	2.494836	4	2.487973	2.497947	2.505809	2.487614
8	0.76	1.9	3.868	7.618	4.748736	8	4.763158	4.802632	4.683816	4.74534
16	0.447	1.106	2.229	4.473	8.139643	16	8.098434	8.250452	8.12786	8.081824
32	0.351	0.89	1.748	3.515	10.30378	32	10.31339	10.25281	10.36442	10.2845
64	0.466	1.155	2.306	4.584	7.852815	64	7.76824	7.900433	7.856461	7.886126

1024x1024 in seconds for operation

Cores	100	250	500	1000	avg. sp-up	Cores	100	250	500	1000
1	14.692	36.601	73.42	147.2	1	1	1	1	1	1
4	5.829	14.64	29.14	58.31	2.516019	4	2.520501	2.500068	2.519233	2.524276
8	2.993	7.461	15.14	29.84	4.898865	8	4.908787	4.905643	4.848953	4.932078
16	1.641	3.964	7.976	15.9	9.162391	16	8.953077	9.23335	9.204865	9.258271
32	1.03	2.491	5.079	10.19	14.46317	32	14.26408	14.6933	14.45521	14.44011
64	0.928	2.347	4.64	9.197	15.81336	64	15.8319	15.5948	15.82284	16.00391

EFFICIENCY = Ts / nTp

Cores	100	250	500	1000
1	1	1	1	1
4	0.5	0.5	0.511905	0.506241
8	0.282787	0.279221	0.278317	0.281658
16	0.084559	0.084314	0.084149	0.083922
32	0.022461	0.023836	0.022584	0.023144
64	0.005843	0.005391	0.004052	0.00546

Cores	100	250	500	1000
1	1	1	1	1
4	0.621993	0.624487	0.626452	0.621903
8	0.595395	0.600329	0.585477	0.593167
16	0.506152	0.515653	0.507991	0.505114
32	0.322293	0.3204	0.323888	0.32139
64	0.121379	0.123444	0.122757	0.123221

Cores	100	250	500	1000
1	1	1	1	1
4	0.630125	0.625017	0.629808	0.631069
8	0.613598	0.613205	0.606119	0.61651
16	0.559567	0.577084	0.575304	0.578642
32	0.445752	0.459165	0.451725	0.451253
64	0.247373	0.243669	0.247232	0.250061

500

1000

2500

5000
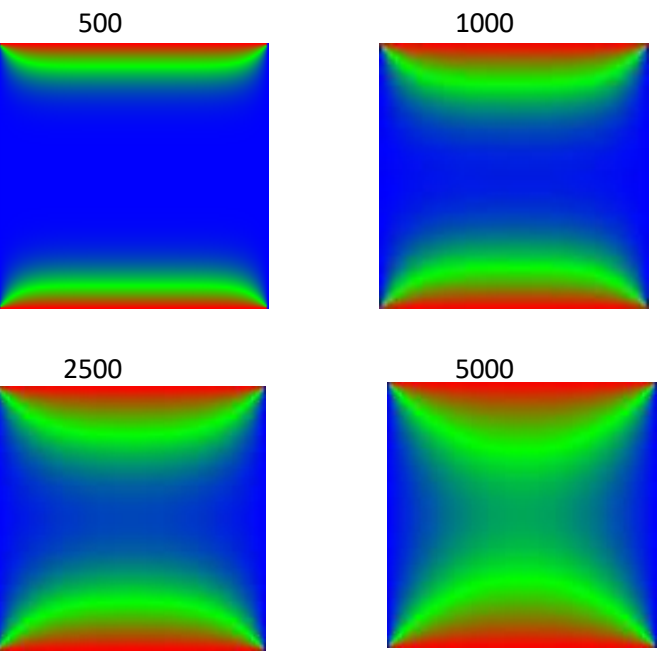
Heat Distribution Test Dimensions: 128x128 (2D Jacobi iterations)

Speed-up vs Cores

Cores	Speed-up
1	1.0
4	2.0
8	2.25
16	1.3
32	0.75
64	0.3
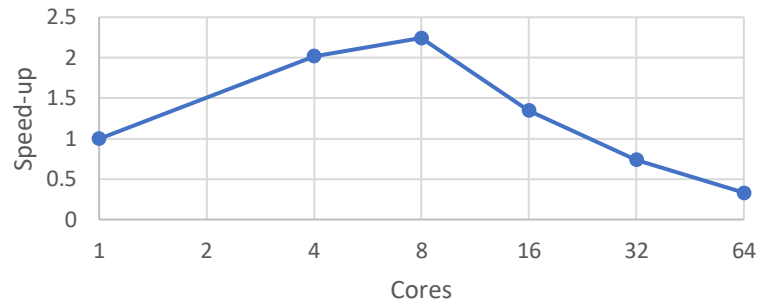
Heat Distribution Test Dimensions 512x512 (2D Jacobi iterations)

Speed-up vs Cores

Cores	Speed-up
1	1.0
4	2.5
8	4.7
16	8.1
32	10.2
64	7.8
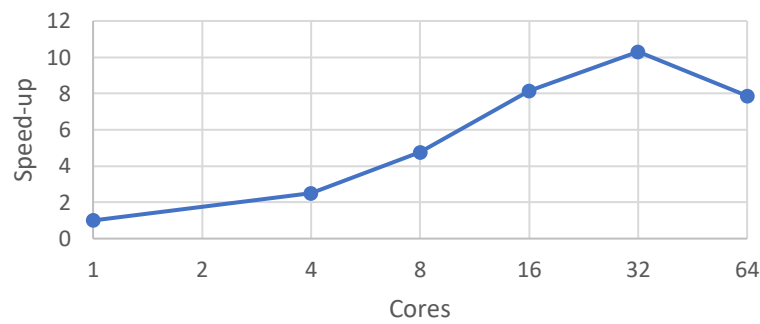
Heat Distribution Test Dimensions: 1024x1024 (2D Jacobi iterations)

Speed-up vs Cores

Cores	Speed-up
1	1.0
4	2.5
8	4.8
16	9.2
32	14.5
64	15.8