

MPI+openMP : Μετρήσεις

Procs/Image Scale	1 / 4	1 / 4 (r)	1 / 2	1 / 2 (r)	1	1 (r)	2	2 (r)	4	4 (r)	8	8 (r)	16	16 (r)
1	2,562,164	2,552,173	5,148,391	5,105,290	10,212,565	10,221,923	20,398,120	20,489,110	40,904,319	41,104,212	81,591,435	81,585,252	164,508,344	164,529,543
4	0.642325	628,730	1,253,902	1,254,740	2,507,557	2,509,252	5,010,155	5,015,176	12,554,928	14,575,711	20,123,666	21,722,572	40,260,831	40,312,091
9	1,214,136	1,338,765	2,106,165	2,321,483	3,649,267	4,342,089	6,691,667	7,818,293	12,820,427	14,422,385	24,471,239	26,309,899	46,386,653	47,777,747
16	1,815,865	2,460,499	2,923,515	3,178,433	4,514,107	5,510,176	7,784,634	9,119,428	13,791,311	16,090,315	26,503,054	29,443,458	49,530,994	53,289,863
25	3,377,120	3,224,293	4,387,733	5,332,170	5,914,379	7,074,594	9,654,150	10,189,136	15,597,774	17,674,522	28,378,097	31,019,454	52,533,995	57,809,401
36	666541	866,197	1,323,393	1,653,689	2,549,603	3,055,446	5,048,249	5,923,287	10,078,495	10,986,450	20,098,504	21,001,583	40,286,010	41,190,525
49	0.617966	0.655013	1,238,267	1,316,979	2,264,388	2,708,305	4,513,929	5,307,406	8,954,214	9,630,399	17,907,149	18,404,412	35,131,280	36,075,668
64	N/A	N/A	N/A	N/A	2,709,885	3,485,334	5,368,066	6,207,271	10,734,959	11,998,840	21,318,394	22,195,001	42,256,342	42,001,382
81	0.646200	0.689456	1,281,776	1,386,582	2,344,196	2,743,646	4,425,013	5,663,422	8,802,291	10,873,037	17,508,789	18,826,948	34,728,803	37,019,351
100	0.706792	1,241,588	1,355,322	1,760,917	2,686,128	3,441,754	5,296,000	6,311,773	10,372,402	13,462,039	20,198,288	23,034,270	41,885,388	43,513,146

Πίνακας 2.1: Χρόνοι περάτωσης σε microseconds της συνέλιξης της ασπρόμαυρης εικόνας.

Οι διαστάσεις με τις οποίες κλήθηκε το πρόγραμμα είναι 1920x2520 για αριθμό διεργασιών ίσο με 1,4,9,16,25,36,64,82,100, ενώ για 49 και 81 διεργασίες, οι διαστάσεις είναι 2016x2016

Procs/Image Scale	1 / 4	1 / 4 (r)	1 / 2	1 / 2 (r)	1	1 (r)	2	2 (r)	4	4 (r)	8	8 (r)	16	16 (r)
1	7,269,802	7,324,188	14,539,275	14,541,629	29,104,809	28,984,239	58,455,975	58,252,864	116,536,877	116,438,672	233,197,715	232,194,375	491,396,324	491,683,793
4	1,936,888	1,937,321	3,871,553	3,886,814	7,753,904	7,766,508	15,506,367	16,291,051	32,496,512	31,048,001	66,288,521	71,640,489	124,167,133	126,846,354
9	2,780,111	3,120,105	4,983,577	5,696,812	9,702,516	10,804,281	17,737,638	19,806,592	36,789,116	35,820,130	68,366,269	66,848,899	134,413,406	138,516,420
16	1,963,965	2,262,962	3,914,201	4,505,373	7,769,404	8,465,681	15,511,477	16,086,524	31,112,461	31,584,588	62,357,803	62,700,667	124,658,398	124,879,078
25	2,179,768	2,310,939	4,182,935	4,659,063	8,665,164	8,715,917	16,029,635	17,453,373	31,743,556	33,835,612	66,727,418	67,269,763	134,922,342	137,216,202
36	1,974,596	2,522,697	3,967,266	4,761,517	7,815,705	8,499,342	15,516,545	16,370,807	31,072,239	31,935,342	64,138,004	62,976,449	124,699,423	125,556,915
49	1,754,653	2,014,600	3,486,071	4,133,202	6,955,025	7,683,533	13,830,274	14,387,838	27,676,722	27,901,020	55,216,984	55,599,107	109,913,723	129,895,171
64	N/A	N/A	N/A	N/A	7,815,501	9,582,136	16,486,932	16,976,602	32,864,471	33,875,285	65,703,438	66,782,143	129,809,870	132,701,945
81	1,737,639	2,109,716	3,447,077	4,137,748	6,809,749	8,777,953	13,586,859	14,853,495	27,119,447	28,618,435	53,684,611	55,215,903	106,996,802	109,661,804
100	2,062,905	2,363,370	4,105,791	4,653,952	8,124,918	10,321,456	16,135,053	17,768,369	32,472,129	33,743,798	64,146,419	66,241,688	128,206,975	130,386,043

Πίνακας 2.2: Χρόνοι περάτωσης σε microseconds της συνέλιξης της έγχρωμης εικόνας.

Οι διαστάσεις με τις οποίες κλήθηκε το πρόγραμμα είναι 1920x2520 για αριθμό διεργασιών ίσο με 1,4,9,16,25,36,64,82,100, ενώ για 49 και 81 διεργασίες, οι διαστάσεις είναι 2016x2016