

Benchmark	Time	Instructions	Relative to Start	Relative to Prev	Improvement	Git Commit	Github Link
midmark	4.95	27505013643	1	1	No improvement	718c5c1306b09cf695a49a3dceb5b40e47418ec6	Tree
advent	41.78		1	1			Commit
SANDmark	122.75		1	1			
midmark	3.94	23153628864	79.60%	79.60%	-O1 compiler flag, link with cii40-O1	f3dc915168e15ab2df59cf44a40458787c65072c	Tree
advent	41.75		99.93%	99.93%			Commit
SANDmark	98.37		80.14%	80.14%			
midmark	3.84	22832108169	77.58%	97.46%	-O2 compiler flag, link with cii40-O2	41342fe7b5d2e9df9b3bafccd082fb10b1ab9b45	Tree
advent	33.89		81.12%	81.17%			Commit
SANDmark	96.97		79.00%	98.58%			
midmark	3.84	22832108169	77.58%	100.00%	remove -g3 compiler flag (this was reverted in future steps to facilitate debugging and profiling)	12d6b580048bb6b252c82183eef14da138f7001c	Tree
advent	33.76		80.80%	99.62%			Commit
SANDmark	95.73		77.99%	98.72%			
midmark	2.65	11881922255	53.54%	69.01%	Remove asserts and special cases in Bitpack	80abe1deaeabfd91af5c0a49bc770a75c5f4617	Tree
advent	33.78		80.85%	100.06%			Commit
SANDmark	66.37		54.07%	69.33%			
midmark	0.95	4754241090	19.19%	35.85%	Replace Bitpack_getu with direct operations (no helper functions), remove unnecessary uint64_t cast, and inline	c08ed6789014aed116665919881a230a89786e9	Tree
advent	5.87		14.05%	17.38%			Commit
SANDmark	24.03		19.58%	36.21%			
midmark	0.91	4306145606	18.38%	95.79%	Reduce calls to Bitpack_getu	873a74321369de58c0fb0d7d71df973bd6c4633a	Tree
advent	14.51		34.73%	247.19%			Commit
SANDmark	23.23		18.92%	96.67%			
midmark	0.91	4305483186	18.38%	100.00%	Inline and simplify Bitpack_newu	8877e2f64d47864fd709b45eaa4db32945eff507	Tree
advent	5.45		13.04%	37.56%			Commit
SANDmark	22.76		18.54%	97.98%			
midmark	0.84	3909587729	16.97%	92.31%	Replace seq of malloc'd ints for recycled indices with a homebrew arraylist	90d6908099399eccab1e5f61e08ddadc8b65291b	Tree
advent	5.43		13.00%	99.63%			Commit
SANDmark	21.15		17.23%	92.93%			
midmark	0.7	3559055668	14.14%	83.33%	Remove and simplify functions for simple instructions	a52517a99ee11a8dc31078991d3d03870b134d2b	Tree
advent	4.12		9.86%	75.87%			Commit
SANDmark	17.78		14.48%	84.07%			
midmark	0.52	2471530486	10.51%	74.29%	Replace UArray segments with homebrew super lightweight segments	aba8e75959fe0f96bc779a31f4985bd39fd20c49	Tree
advent	3.14		7.52%	76.21%			Commit
SANDmark	12.33		10.04%	69.35%			

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midmark	0.48	2470136695	9.70%	92.31%	Swap all conditionals for switches where possible	92f969042cec5ae80810e63b24dda0d76403110e	Tree
advent	3.07		7.35%	97.77%			Commit
SANDmark	12.31		10.03%	99.84%			
midmark	0.36	2067992554	7.27%	75.00%	Replace Hanson sequence with a custom arraylist of homebrew super lightweight segments	5ddf32b07a668fe1a51505510c2ba70c519ab7a4	Tree
advent	2.62		6.27%	85.34%			Commit
SANDmark	9.15		7.45%	74.33%			
midmark	0.35	2067990488	7.07%	97.22%	Fully remove all Hanson includes, replace asserts with custom checks	bf3faefad83b2342d0f57398b58b6a7cde7d8235	Tree
advent	2.58		6.18%	98.47%			Commit
SANDmark	8.98		7.32%	98.14%			
midmark	0.35	2063748746	7.07%	100.00%	Inline load program instruction function	84b7b126e336017992b19cea6707e5dca57e2e5a	Tree
advent	2.63		6.29%	101.94%			Commit
SANDmark	8.96		7.30%	99.78%			
midmark	0.36	2063748746	7.27%	102.86%	Inline recycled memory expand function	23dd33cf980edf59e5d61d56c5e5dc7da6b501b6	Tree
advent	2.69		6.44%	102.28%			Commit
SANDmark	8.88		7.23%	99.11%			
midmark	0.36	1932755451	7.27%	100.00%	Move segmented memory management function definitions to .h	b35c6c63d6c9e032cb053616d34b0b0013207527	Tree
advent	2.78		6.65%	103.35%			Commit
SANDmark	9.3		7.58%	104.73%			
midmark	0.32	1924229281	6.46%	88.89%	static inline all of segmented memory management	6e759f2cffed01572724567ce2fe811082ed664a	Tree
advent	2.44		5.84%	87.77%			Commit
SANDmark	8.15		6.64%	87.63%			
midmark	0.33	1923657193	6.67%	103.13%	inline and simplify get_one_instruction	8543ff6a2b6670ab196457ad6f9058f42665431e	Tree
advent	2.48		5.94%	101.64%			Commit
SANDmark	8.23		6.70%	100.98%			
midmark	0.32	1923532734	6.46%	96.97%	Make initial size of growable arrays bigger.	03ed314a7a6352417a7f7cfe8e456f890a166320	Tree
advent	2.46		5.89%	99.19%			Commit
SANDmark	8.13		6.62%	98.78%			
midmark	0.32	1921936905	6.46%	100.00%	Use union to build instructions	bcc34edaf4aef8af8bb37547258597b45993a484	Tree
advent	2.49		5.96%	101.22%			Commit
SANDmark	8.17		6.66%	100.49%			
midmark	0.32	1921916030	6.46%	100.00%	Replace 2-branch switches with conditions	0aea93798865bd0da426189c0f91c6a8315df88	Tree
advent	2.49		5.96%	100.00%			Commit
SANDmark	8.23		6.70%	100.73%			