

## Benchmark Results

<i>all times in <math>\mu</math>s</i>	Crystal 0.35.1 --release --no-debug			Node.js 12.16		LuaJIT 2.0		Crystal 0.35.1 (default)		Ruby 3.0 RC1 --jit		Ruby 3.0 RC1 (default)		Ruby 2.7.2	
	<i>n</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>	<i>average</i>	<i>factor</i>
Benchmark:															
DeltaBlue	12000	19	1.0	65	3.4	345	18.2	95	5.0	754	39.7	636	33.5	658	34.7
Richards	100	1'835	1.0	5'746	3.1	34'879	19.0	13'649	7.4	153'162	83.4	162'006	88.3	161'514	88.0
Json	100	2'887	1.0	5'036	1.7	6'611	2.3	15'653	5.4	57'999	20.1	48'884	16.9	47'652	16.5
Havlak	3	875'193	1.0	727'663	0.8	7'975'396	9.1	2'991'015	3.4	8'908'886	10.2	8'991'145	10.3	9'316'071	10.6
Bounce	1500	62	1.0	142	2.3	217	3.5	248	4.0	1'415	22.8	2'690	43.3	2'556	41.2
List	1500	68	1.0	237	3.5	599	8.8	210	3.1	1'821	26.6	2'631	38.4	2'581	37.7
Mandelbrot	500	1	1.0	14	13.9	2	2.0	1	1.2	12	11.9	10	9.9	13	12.9
Permute	1000	171	1.0	159	0.9	292	1.7	1'493	8.7	3'006	17.6	4'894	28.6	4'724	27.6
Queens	1000	147	1.0	223	1.5	265	1.8	1'122	7.6	3'154	21.4	3'273	22.2	3'137	21.3
Sieve	3000	41	1.0	104	2.6	103	2.5	707	17.4	1'084	26.7	1'525	37.5	1'410	34.7
Storage	1000	662	1.0	314	0.5	2'144	3.2	1'405	2.1	5'101	7.7	5'482	8.3	5'572	8.4
Towers	600	212	1.0	299	1.4	299	1.4	1'695	8.0	4'826	22.8	7'425	35.1	7'314	34.6
<b>geomean of factors:</b>		<b>1.0</b>		<b>2.0</b>		<b>4.0</b>		<b>4.9</b>		<b>21.3</b>		<b>25.0</b>		<b>25.1</b>	
compile time:		<b>45s</b>		0s		0s		<b>8s</b>		0s		0s		0s	
<b>geomean inverted:</b>		<b>0.04</b>		<b>0.08</b>		<b>0.16</b>		<b>0.20</b>		<b>0.85</b>		<b>0.99</b>		<b>1.00</b>	

Benchmarks used from <https://github.com/smarr/are-we-fast-yet> commit 770c664 3.4.2020

NOTE: CD didn't work on any of the Lua VMs, thus left out

NOTE: NBody caused an exception in Crystal, thus left out

Test machine: HP EliteBook 2530p, Intel Core Duo L9400 1.86GHz, 4GB RAM, Linux i386

LuaJIT, Lua and Ruby compiled on test machine with GCC 4.8.2; Crystal and Node using precompiled binaries

Lua and Ruby built with default options

LuaJIT params, deviations from default values:

```

maxtrace      100000
maxrecord     40000
maxside       100
maxsnap       1000
sizemcode     64
maxmcode      5120

```