



SPEC[®] CFP2006 Result

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Intel Corporation

SPECfp[®]_rate2006 = 127

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp_rate_base2006 = 127

CPU2006 license: 13

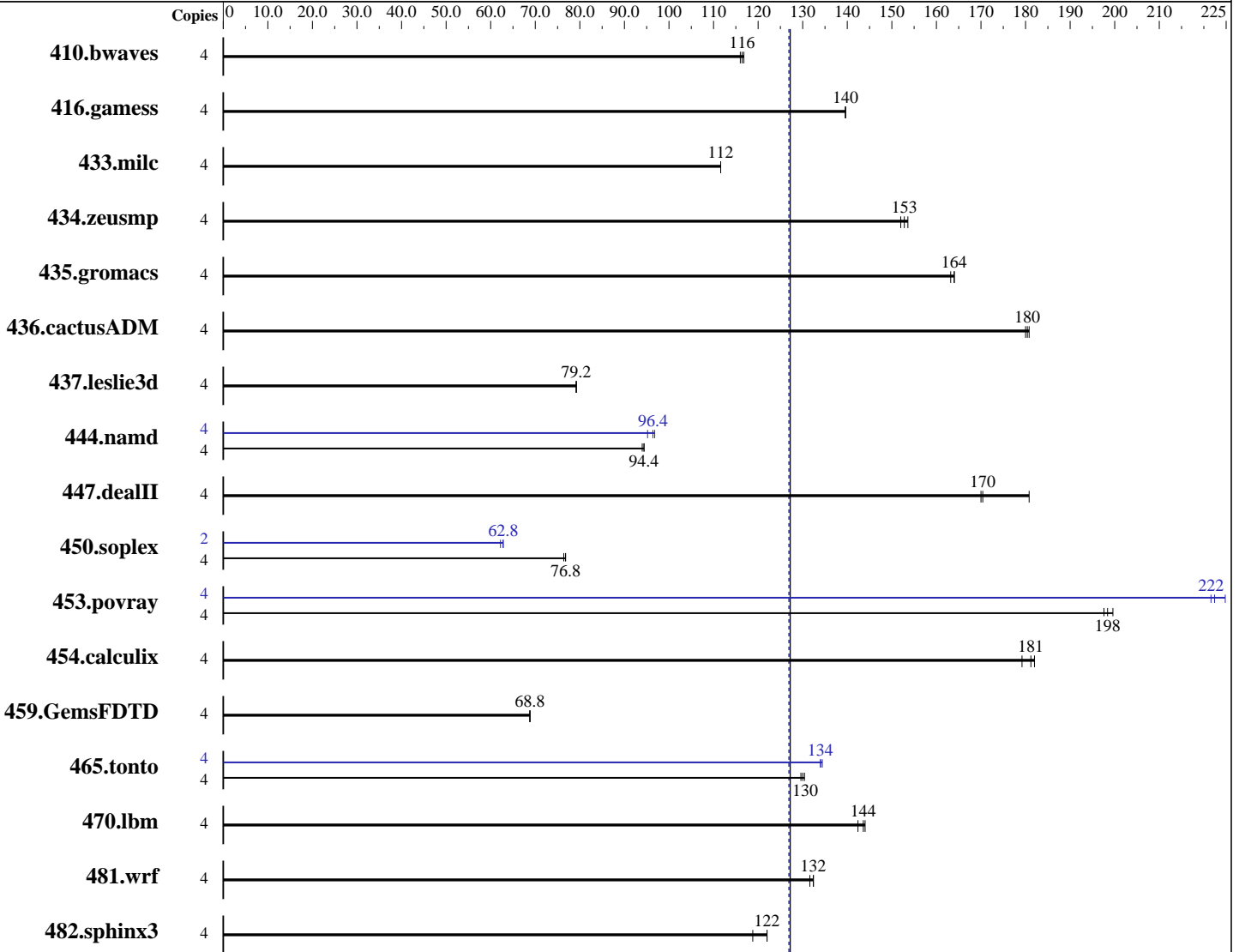
Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013



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Hardware

CPU Name: Intel Core i5-4430
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

Continued on next page

Software

Operating System: Microsoft Windows 8.1 Pro
 6.3.9600 N/A Build 9600
 Compiler: C/C++: Version 14.0.1.139 of Intel C++ Studio XE for Windows;
 Fortran: Version 14.0.1.139 of Intel Fortran Studio XE for Windows;
 Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
 Auto Parallel: No

Continued on next page



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L3 Cache: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)
 Disk Subsystem: 1 TB Seagate SATA HDD, 7200 RPM
 Other Hardware: None

File System: NTFS
 System State: Default
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap Library Version 10.0 from <http://www.microquill.com/>

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	468	116	<u>467</u>	<u>116</u>	466	117	4	468	116	<u>467</u>	<u>116</u>	466	117
416.gamess	4	561	140	<u>561</u>	<u>140</u>	561	140	4	561	140	<u>561</u>	<u>140</u>	561	140
433.milc	4	<u>329</u>	<u>112</u>	329	112	330	112	4	<u>329</u>	<u>112</u>	329	112	330	112
434.zeusmp	4	237	154	<u>239</u>	<u>153</u>	239	152	4	237	154	<u>239</u>	<u>153</u>	239	152
435.gromacs	4	174	164	175	163	<u>174</u>	<u>164</u>	4	174	164	175	163	<u>174</u>	<u>164</u>
436.cactusADM	4	264	181	265	180	<u>265</u>	<u>180</u>	4	264	181	265	180	<u>265</u>	<u>180</u>
437.leslie3d	4	475	79.2	<u>475</u>	<u>79.2</u>	475	79.2	4	475	79.2	<u>475</u>	<u>79.2</u>	475	79.2
444.namd	4	341	94.0	340	94.4	<u>340</u>	<u>94.4</u>	4	<u>333</u>	<u>96.4</u>	332	96.8	337	95.2
447.dealII	4	269	170	253	181	<u>268</u>	<u>170</u>	4	269	170	253	181	<u>268</u>	<u>170</u>
450.soplex	4	435	76.8	436	76.4	<u>435</u>	<u>76.8</u>	2	266	62.8	268	62.2	<u>266</u>	<u>62.8</u>
453.povray	4	<u>107</u>	<u>198</u>	108	198	107	200	4	96.1	222	94.7	225	<u>95.6</u>	<u>222</u>
454.calculix	4	181	182	<u>182</u>	<u>181</u>	184	179	4	181	182	<u>182</u>	<u>181</u>	184	179
459.GemsFDTD	4	<u>615</u>	<u>68.8</u>	615	68.8	615	68.8	4	<u>615</u>	<u>68.8</u>	615	68.8	615	68.8
465.tonto	4	<u>303</u>	<u>130</u>	302	130	303	130	4	294	134	293	134	<u>293</u>	<u>134</u>
470.lbm	4	<u>383</u>	<u>144</u>	386	142	382	144	4	<u>383</u>	<u>144</u>	386	142	382	144
481.wrf	4	337	132	340	132	<u>338</u>	<u>132</u>	4	337	132	340	132	<u>338</u>	<u>132</u>
482.sphinx3	4	<u>640</u>	<u>122</u>	639	122	656	119	4	<u>640</u>	<u>122</u>	639	122	656	119

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

To compile these binaries, the Intel Compiler 14.0 was set up to generate 64-bit binaries with the command:
 "ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

Submit Notes

Processes were bound to specific processors using the start command with the /affinity switch. The config file option 'submit' was used to generate the affinity mask for each process.



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Platform Notes

Sysinfo program C:\SPEC14.0/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt7C05070D841B Sat Jun 28 09:36:21 2014

This section contains SUT (System Under Test) info as seen by
some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

Trying 'systeminfo'

OS Name : Microsoft Windows 8.1 Pro
OS Version : 6.3.9600 N/A Build 9600
System Manufacturer: INTEL_
System Model : DH87MC__
Processor(s) : 1 Processor(s) Installed.
 [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3001 Mhz
BIOS Version : Intel Corp. MCH8710H.86A.0047.2013.0606.1508, 6/6/2013
Total Physical Memory: 7,862 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0
L2CacheSize : 1024
L3CacheSize : 6144
MaxClockSpeed : 3001
Name : Intel(R) Core(TM) i5-4430 CPU @ 3.00GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 4

(End of data from sysinfo program)

Component Notes

Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply

General Notes

Binaries compiled on a system with 1x Intel Core i7-860 CPU
+ 8GB memory using Windows 7 Enterprise 64-bit

Base Compiler Invocation

C benchmarks:

icl -Qvc10 -Qstd=c99

C++ benchmarks:

icl -Qvc10

Continued on next page



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Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc10 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
 416.gamess: -DSPEC_CPU_P64
 433.milc: -DSPEC_CPU_P64
 434.zeusmp: -DSPEC_CPU_P64
 435.gromacs: -DSPEC_CPU_P64
 436.cactusADM: -DSPEC_CPU_P64 /names:lowercase /assume:underscore
 437.leslie3d: -DSPEC_CPU_P64
 444.namd: -DSPEC_CPU_P64 /TP
 447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
 -Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
 450.soplex: -DSPEC_CPU_P64
 453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
 454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER /names:lowercase
 459.GemsFDTD: -DSPEC_CPU_P64
 465.tonto: -DSPEC_CPU_P64
 470.lbm: -DSPEC_CPU_P64
 481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
 482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE



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Peak Compiler Invocation

C benchmarks:

icl -Qvc10 -Qstd=c99

C++ benchmarks:

icl -Qvc10

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc10 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
shlW64M.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

Continued on next page



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Peak Optimization Flags (Continued)

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.xml>

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For other inquiries, please contact webmaster@spec.org.

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