



SPEC[®] CFP2006 Result

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Intel Corporation

SPECfp[®]_rate2006 = 61.9

Intel DQ77MK motherboard (Intel Pentium G2120T)

SPECfp_rate_base2006 = 60.9

CPU2006 license: 13

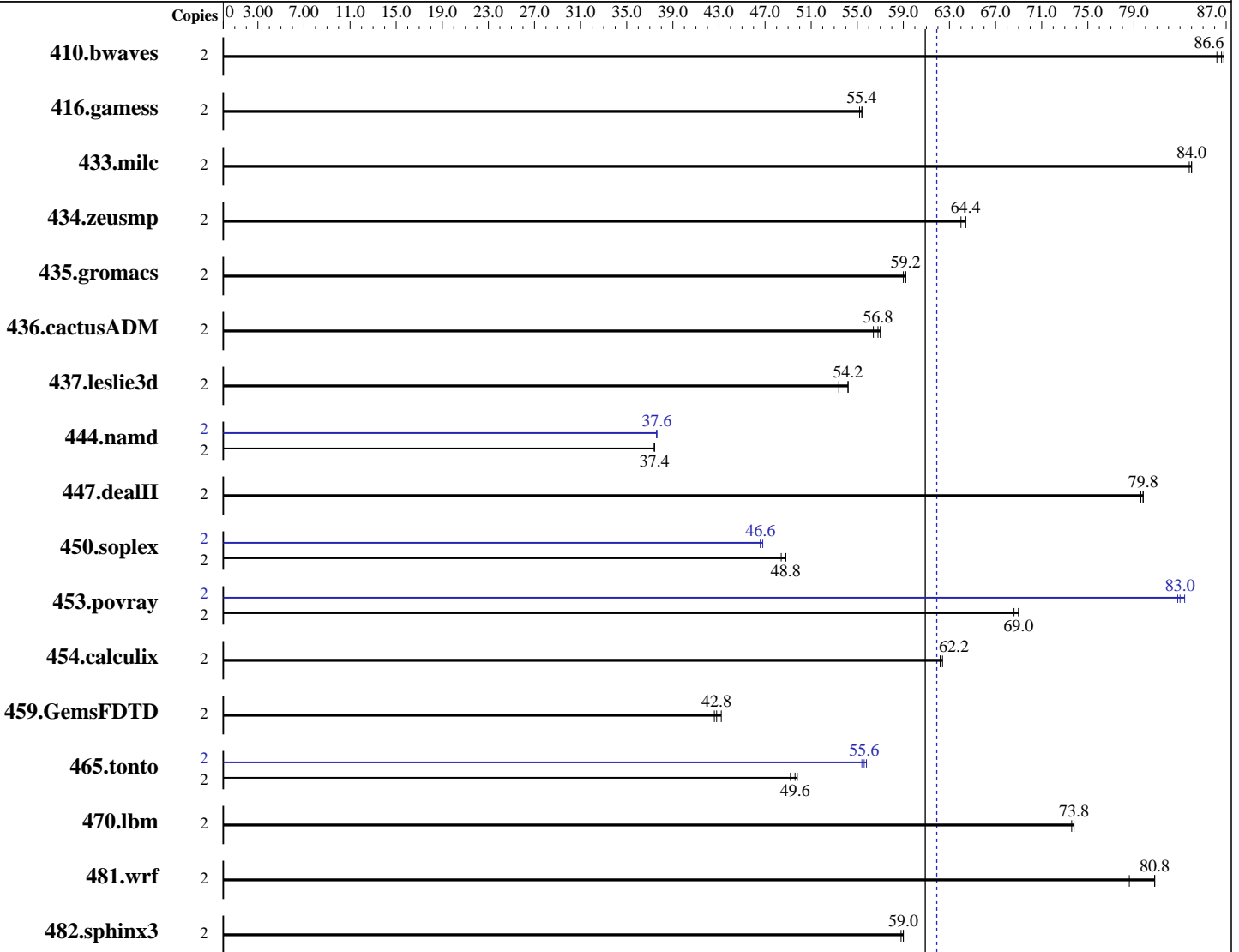
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013



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Hardware

CPU Name: Intel Pentium G2120T
 CPU Characteristics:
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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

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Software

Operating System: Microsoft Windows 7 Enterprise 6.1.7601 Service Pack 1 Build 7601
 Compiler: C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows;
 Fortran: Version 13.1.1.171 of Intel Fortran Studio XE for Windows;
 Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
 Auto Parallel: No

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L3 Cache: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)
 Disk Subsystem: 250 GB 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	2	315	86.2	<u>314</u>	<u>86.6</u>	313	86.8	2	315	86.2	<u>314</u>	<u>86.6</u>	313	86.8
416.gamess	2	709	55.2	706	55.4	<u>708</u>	<u>55.4</u>	2	709	55.2	706	55.4	<u>708</u>	<u>55.4</u>
433.milc	2	<u>219</u>	<u>84.0</u>	219	83.8	219	84.0	2	<u>219</u>	<u>84.0</u>	219	83.8	219	84.0
434.zeusmp	2	284	64.0	<u>282</u>	<u>64.4</u>	282	64.4	2	284	64.0	<u>282</u>	<u>64.4</u>	282	64.4
435.gromacs	2	<u>241</u>	<u>59.2</u>	242	59.0	241	59.2	2	<u>241</u>	<u>59.2</u>	242	59.0	241	59.2
436.cactusADM	2	423	56.4	420	57.0	<u>421</u>	<u>56.8</u>	2	423	56.4	420	57.0	<u>421</u>	<u>56.8</u>
437.leslie3d	2	352	53.4	346	54.2	<u>347</u>	<u>54.2</u>	2	352	53.4	346	54.2	<u>347</u>	<u>54.2</u>
444.namd	2	<u>428</u>	<u>37.4</u>	428	37.4	428	37.4	2	427	37.6	427	37.6	<u>427</u>	<u>37.6</u>
447.dealII	2	<u>287</u>	<u>79.8</u>	287	79.8	287	79.6	2	<u>287</u>	<u>79.8</u>	287	79.8	287	79.6
450.soplex	2	344	48.4	<u>342</u>	<u>48.8</u>	342	48.8	2	<u>358</u>	<u>46.6</u>	358	46.6	357	46.8
453.povray	2	154	69.0	<u>154</u>	<u>69.0</u>	155	68.6	2	<u>128</u>	<u>83.0</u>	128	83.4	129	82.8
454.calculix	2	265	62.4	<u>265</u>	<u>62.2</u>	265	62.2	2	265	62.4	<u>265</u>	<u>62.2</u>	265	62.2
459.GemsFDTD	2	492	43.2	497	42.6	<u>496</u>	<u>42.8</u>	2	492	43.2	497	42.6	<u>496</u>	<u>42.8</u>
465.tonto	2	<u>397</u>	<u>49.6</u>	400	49.2	396	49.8	2	352	55.8	355	55.4	<u>354</u>	<u>55.6</u>
470.lbm	2	372	73.8	<u>372</u>	<u>73.8</u>	374	73.6	2	372	73.8	<u>372</u>	<u>73.8</u>	374	73.6
481.wrf	2	284	78.6	<u>277</u>	<u>80.8</u>	276	80.8	2	284	78.6	<u>277</u>	<u>80.8</u>	276	80.8
482.sphinx3	2	660	59.0	<u>661</u>	<u>59.0</u>	662	58.8	2	660	59.0	<u>661</u>	<u>59.0</u>	662	58.8

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 13.1 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:\SPEC13.1/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt7054D218890C Sun Dec 8 05:49:16 2013

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 7 Enterprise
OS Version : 6.1.7601 Service Pack 1 Build 7601
System Manufacturer: INTEL_
System Model : DQ77MK_
Processor(s) : 1 Processor(s) Installed.
 [01]: Intel64 Family 6 Model 58 Stepping 9 GenuineIntel ~2700 Mhz
BIOS Version : Intel Corp. MKQ7710H.86A.0054.2012.1120.1444, 11/20/2012
Total Physical Memory: 3,912 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0
L2CacheSize : 512
L3CacheSize : 3072
MaxClockSpeed : 2700
Name : Intel(R) Pentium(R) CPU G2120T @ 2.70GHz
NumberOfCores : 2
NumberOfLogicalProcessors: 2

(End of data from sysinfo program)

BIOS: SATA mode set to RAID

Windows Disk Driver: Intel Rapid Storage Technology 12.5.0.1066

Windows Chipset Driver: Intel Chipset Driver 9.4.0.1027

Component Notes

Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

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

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Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc10

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:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

453.povray: -QxSSE4.2(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

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.2(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-ic13.1-official-windows.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.xml>

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

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