



SPEC[®] CFP2006 Result

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Intel Corporation

SPECfp[®]_rate2006 = 66.0

Intel DQ87PG motherboard (Intel Pentium G3420T)

SPECfp_rate_base2006 = 65.0

CPU2006 license: 13

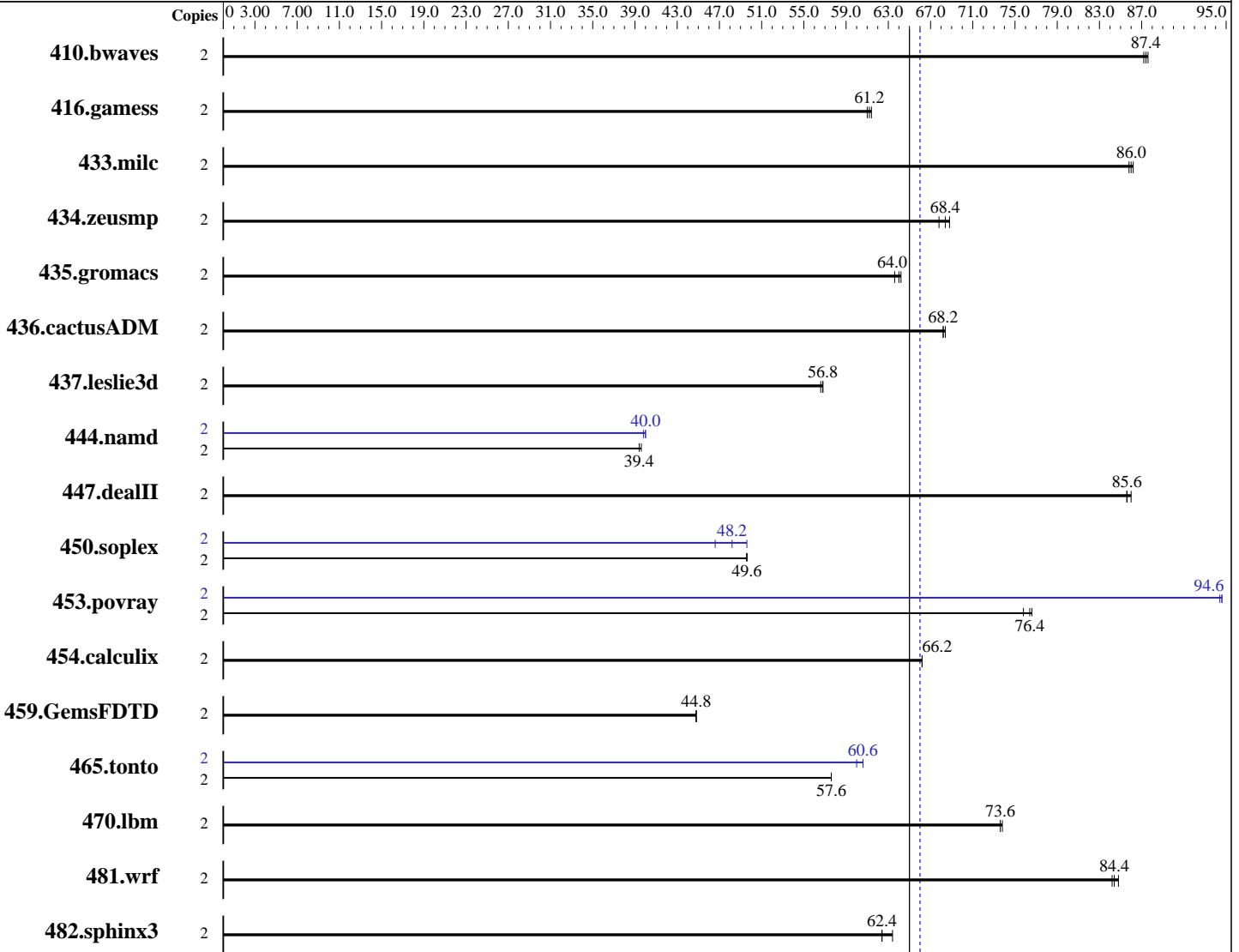
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2013

Hardware Availability: Sep-2013

Software Availability: Apr-2013



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Hardware

CPU Name: Intel Pentium G3420T
 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

Continued on next page

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

Continued on next page



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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	<u>311</u>	<u>87.4</u>	312	87.2	311	87.6	2	<u>311</u>	<u>87.4</u>	312	87.2	311	87.6
416.gamess	2	<u>639</u>	<u>61.2</u>	638	61.4	642	61.0	2	<u>639</u>	<u>61.2</u>	638	61.4	642	61.0
433.milc	2	<u>214</u>	<u>86.0</u>	214	85.8	213	86.2	2	<u>214</u>	<u>86.0</u>	214	85.8	213	86.2
434.zeusmp	2	<u>266</u>	<u>68.4</u>	265	68.8	269	67.8	2	<u>266</u>	<u>68.4</u>	265	68.8	269	67.8
435.gromacs	2	225	63.6	223	64.2	<u>223</u>	<u>64.0</u>	2	225	63.6	223	64.2	<u>223</u>	<u>64.0</u>
436.cactusADM	2	<u>350</u>	<u>68.2</u>	349	68.4	350	68.2	2	<u>350</u>	<u>68.2</u>	349	68.4	350	68.2
437.leslie3d	2	<u>331</u>	<u>56.8</u>	333	56.6	331	56.8	2	<u>331</u>	<u>56.8</u>	333	56.6	331	56.8
444.namd	2	407	39.4	406	39.6	<u>406</u>	<u>39.4</u>	2	402	40.0	<u>402</u>	<u>40.0</u>	403	39.8
447.dealII	2	<u>267</u>	<u>85.6</u>	266	86.0	267	85.6	2	<u>267</u>	<u>85.6</u>	266	86.0	267	85.6
450.soplex	2	337	49.6	<u>336</u>	<u>49.6</u>	336	49.6	2	358	46.6	337	49.6	<u>346</u>	<u>48.2</u>
453.povray	2	141	75.8	139	76.6	<u>139</u>	<u>76.4</u>	2	<u>113</u>	<u>94.6</u>	113	94.4	112	94.6
454.calculix	2	250	66.2	249	66.2	<u>249</u>	<u>66.2</u>	2	250	66.2	249	66.2	<u>249</u>	<u>66.2</u>
459.GemsFDTD	2	475	44.8	<u>474</u>	<u>44.8</u>	473	44.8	2	475	44.8	<u>474</u>	<u>44.8</u>	473	44.8
465.tonto	2	<u>342</u>	<u>57.6</u>	342	57.6	341	57.6	2	<u>325</u>	<u>60.6</u>	324	60.6	328	60.0
470.lbm	2	372	73.8	<u>373</u>	<u>73.6</u>	374	73.6	2	372	73.8	<u>373</u>	<u>73.6</u>	374	73.6
481.wrf	2	263	84.8	265	84.2	<u>265</u>	<u>84.4</u>	2	263	84.8	265	84.2	<u>265</u>	<u>84.4</u>
482.sphinx3	2	624	62.4	614	63.4	<u>624</u>	<u>62.4</u>	2	624	62.4	614	63.4	<u>624</u>	<u>62.4</u>

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 Clt00224D4FB715 Wed Nov 27 20:03:40 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 : DQ87PG__
Processor(s) : 1 Processor(s) Installed.
 [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~2700 Mhz
BIOS Version : Intel(R) Corp. PGQ8710H.86A.0036.2013.0702.1908, 7/2/2013
Total Physical Memory: 3,749 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0
L2CacheSize : 512
L3CacheSize : 3072
MaxClockSpeed : 2700
Name : Intel(R) Pentium(R) CPU G3420T @ 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

Continued on next page



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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`

Continued on next page



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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 sh1W64M.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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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