SPEC® CFP2006 Result

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Intel Corporation

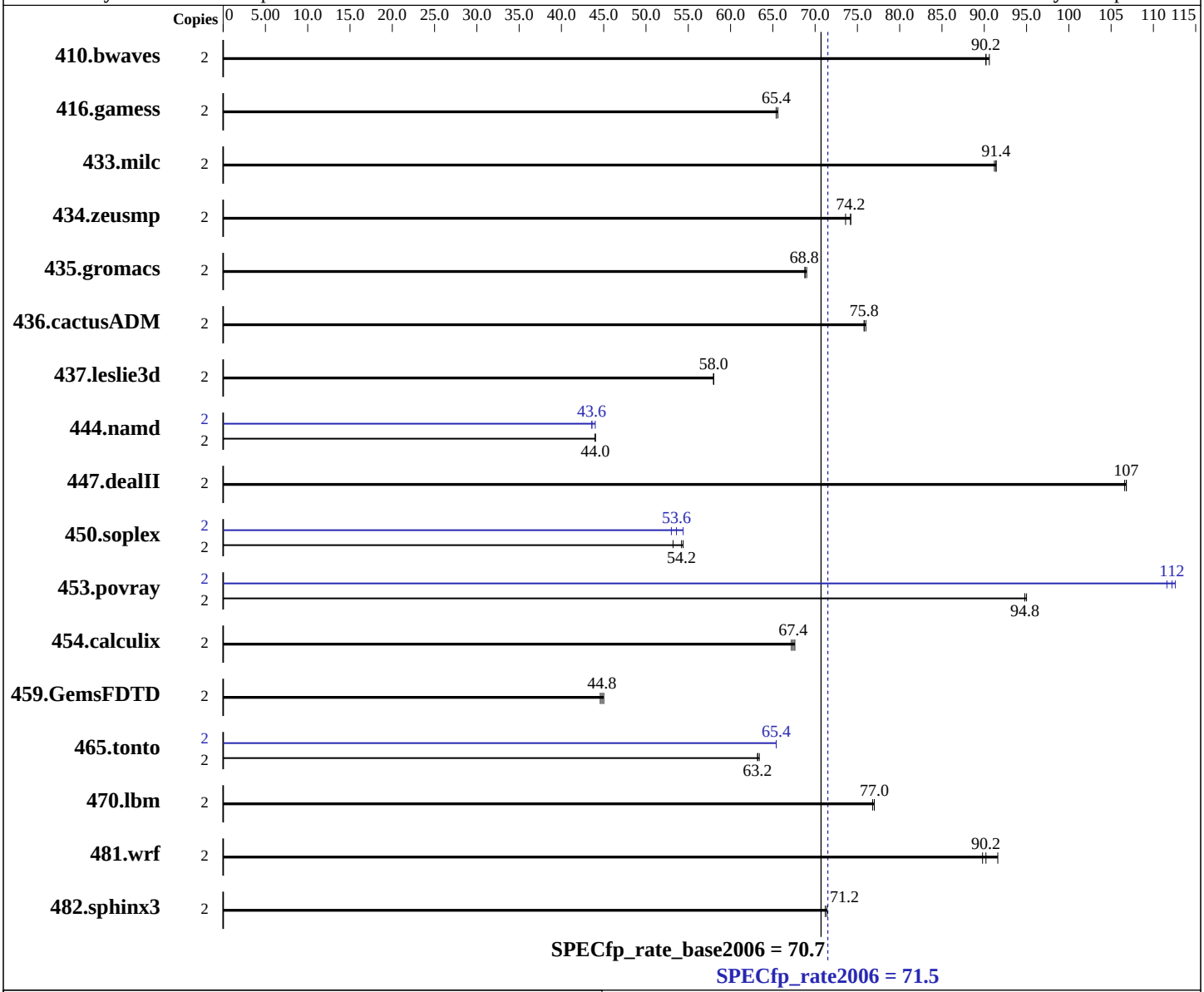
Intel DQ87PG motherboard (Intel Pentium G3430)

SPECfp®_rate2006 = 71.5

SPECfp_rate_base2006 = 70.7

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2012



Hardware

CPU Name:	Intel Pentium G3430
CPU Characteristics:	
CPU MHz:	3300
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 15.00.30729.01 of Microsoft Visual Studio 2008 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	**301**	**90.2**	302	90.2	300	90.6	2	**301**	**90.2**	302	90.2	300	90.6
416.gamess	2	597	65.6	**598**	**65.4**	599	65.4	2	597	65.6	**598**	**65.4**	599	65.4
433.milc	2	201	91.2	201	91.4	**201**	**91.4**	2	201	91.2	201	91.4	**201**	**91.4**
434.zeusmp	2	247	73.6	**245**	**74.2**	245	74.2	2	247	73.6	**245**	**74.2**	245	74.2
435.gromacs	2	207	69.0	**207**	**68.8**	207	68.8	2	207	69.0	**207**	**68.8**	207	68.8
436.cactusADM	2	**315**	**75.8**	316	75.8	315	76.0	2	**315**	**75.8**	316	75.8	315	76.0
437.leslie3d	2	324	58.0	324	58.0	**324**	**58.0**	2	324	58.0	324	58.0	**324**	**58.0**
444.namd	2	364	44.0	**364**	**44.0**	364	44.0	2	368	43.6	364	44.0	**368**	**43.6**
447.dealII	2	214	107	**214**	**107**	215	107	2	214	107	**214**	**107**	215	107
450.soplex	2	314	53.2	**307**	**54.2**	307	54.4	2	315	53.0	306	54.4	**311**	**53.6**
453.povray	2	**112**	**94.8**	112	94.8	112	95.0	2	95.4	112	**94.8**	**112**	94.5	113
454.calculix	2	244	67.6	246	67.2	**245**	**67.4**	2	244	67.6	246	67.2	**245**	**67.4**
459.GemsFDTD	2	472	45.0	475	44.6	**473**	**44.8**	2	472	45.0	475	44.6	**473**	**44.8**
465.tonto	2	**311**	**63.2**	311	63.4	311	63.2	2	**301**	**65.4**	301	65.4	301	65.4
470.lbm	2	357	76.8	357	77.0	**357**	**77.0**	2	357	76.8	357	77.0	**357**	**77.0**
481.wrf	2	249	89.8	244	91.6	**248**	**90.2**	2	249	89.8	244	91.6	**248**	**90.2**
482.sphinx3	2	547	71.4	**547**	**71.2**	547	71.2	2	547	71.4	**547**	**71.2**	547	71.2

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 13.0 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.
```

Platform Notes

```
Sysinfo program C:\SPEC13.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt7C05070FB2B7 Mon Sep 23 19:43:34 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 ~3300 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 : 3300
Name          : Intel(R) Pentium(R) CPU G3430 @ 3.30GHz
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

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: /Qlowercase
436.cactusADM: -Qlowercase /assume:underscore
444.namd: /TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
453.povray: -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

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

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features /F1000000000 shlW32M.lib
-link /FORCE:MULTIPLE

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

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

Continued on next page

Peak Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc10

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -Qstd=c99 ifort

Peak Portability Flags

410.bwaves: /Qlowercase
436.cactusADM: -Qlowercase /assume:underscore
444.namd: /TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
453.povray: -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

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 /F1000000000 shlW32M.lib
-link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 /F1000000000 shlW32M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
shlW32M.lib -link /FORCE:MULTIPLE

Continued on next page

Peak Optimization Flags (Continued)

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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