SPEC® CFP2006 Result

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Intel Corporation

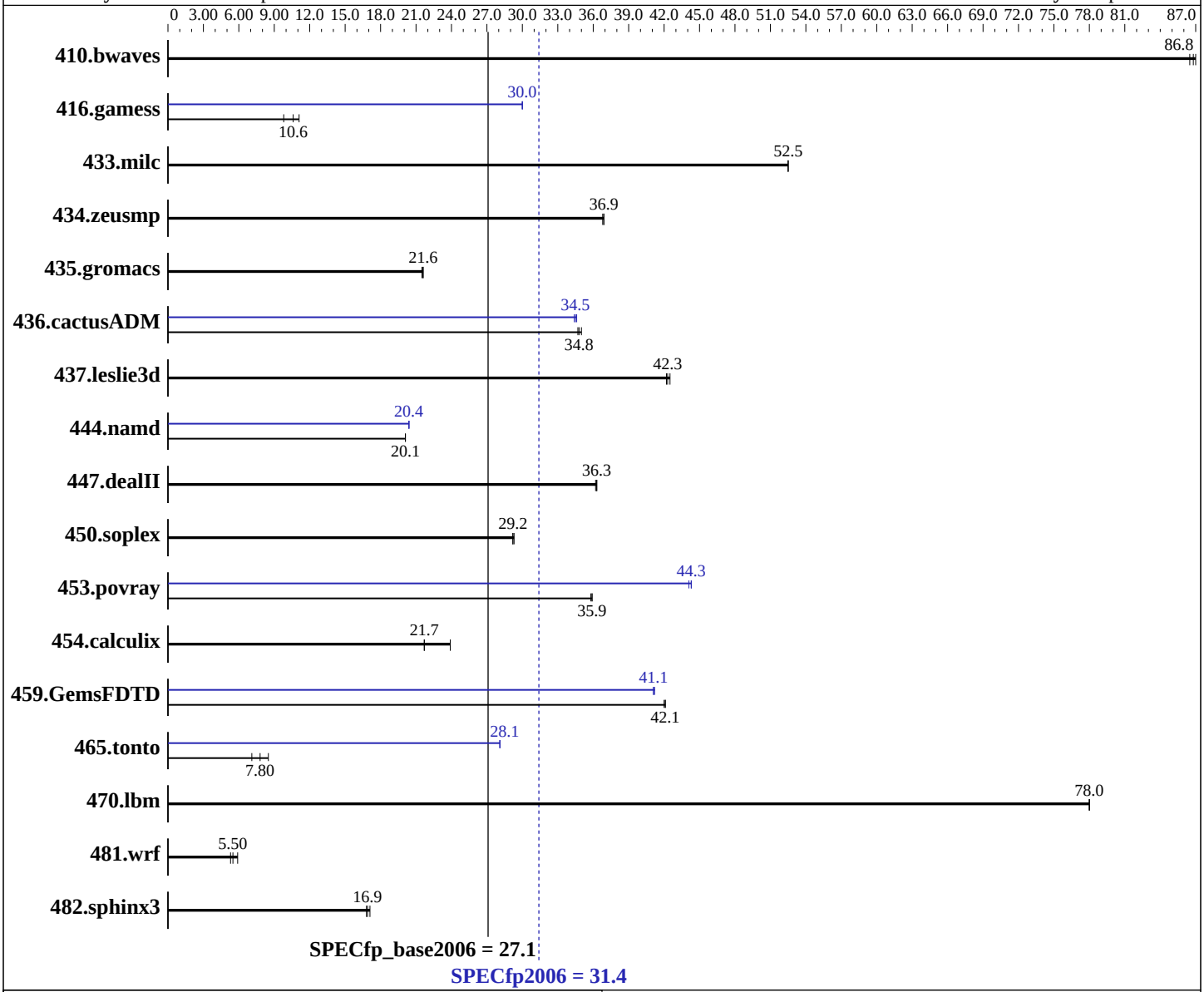
Intel DH61WW motherboard (Intel Pentium G860)

SPECfp®2006 = 31.4

SPECfp_base2006 = 27.1

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

Test date: Oct-2011
Hardware Availability: Sep-2011
Software Availability: Apr-2011



Hardware

CPU Name:	Intel Pentium G860
CPU Characteristics:	
CPU MHz:	3000
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:	Windows 7 Ultimate (64-bit)
Compiler:	C/C++: Version 12.0.3.176 of Intel C++ Studio XE for Windows; Fortran: Version 12.0.3.176 of Intel Fortran Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)
Disk Subsystem: 1 TB Seagate SATA, 7200 RPM
Other Hardware: None

System State: Default
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: SmartHeap Library Version 9.01 from http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	157	86.5	**157**	**86.8**	156	87.0	157	86.5	**157**	**86.8**	156	87.0
416.gamess	**1851**	**10.6**	1766	11.1	2004	9.80	**653**	**30.0**	653	30.0	653	30.0
433.milc	175	52.5	**175**	**52.5**	175	52.5	175	52.5	**175**	**52.5**	175	52.5
434.zeusmp	247	36.9	**247**	**36.9**	248	36.8	247	36.9	**247**	**36.9**	248	36.8
435.gromacs	332	21.5	**331**	**21.6**	330	21.6	332	21.5	**331**	**21.6**	330	21.6
436.cactusADM	342	35.0	345	34.7	**344**	**34.8**	348	34.4	**346**	**34.5**	345	34.6
437.leslie3d	221	42.5	**222**	**42.3**	223	42.2	221	42.5	**222**	**42.3**	223	42.2
444.namd	400	20.1	399	20.1	**399**	**20.1**	**393**	**20.4**	393	20.4	393	20.4
447.dealII	**316**	**36.3**	315	36.3	316	36.2	**316**	**36.3**	315	36.3	316	36.2
450.soplex	**285**	**29.2**	285	29.3	286	29.2	**285**	**29.2**	285	29.3	286	29.2
453.povray	148	35.8	148	35.9	**148**	**35.9**	**120**	**44.3**	121	44.1	120	44.3
454.calculix	345	23.9	381	21.7	**380**	**21.7**	345	23.9	381	21.7	**380**	**21.7**
459.GemsFDTD	**252**	**42.1**	252	42.1	253	42.0	258	41.2	**258**	**41.1**	258	41.1
465.tonto	1159	8.50	**1266**	**7.80**	1385	7.10	351	28.1	350	28.1	**350**	**28.1**
470.lbm	176	78.0	**176**	**78.0**	176	78.0	176	78.0	**176**	**78.0**	176	78.0
481.wrf	**2025**	**5.50**	1888	5.90	2115	5.30	**2025**	**5.50**	1888	5.90	2115	5.30
482.sphinx3	1159	16.8	**1156**	**16.9**	1138	17.1	1159	16.8	**1156**	**16.9**	1138	17.1

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

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
OMP_NUM_THREADS set to number of processor cores
KMP_AFFINITY set to granularity=fine,scatter
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 -names:lowercase
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
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
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- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000
```

C++ benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F1000000000 shlW64M.lib
           -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -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: basepeak = yes

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2 -Qauto-ilp32 /F1000000000

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.xml

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