SPEC® CFP2006 Result

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Intel Corporation

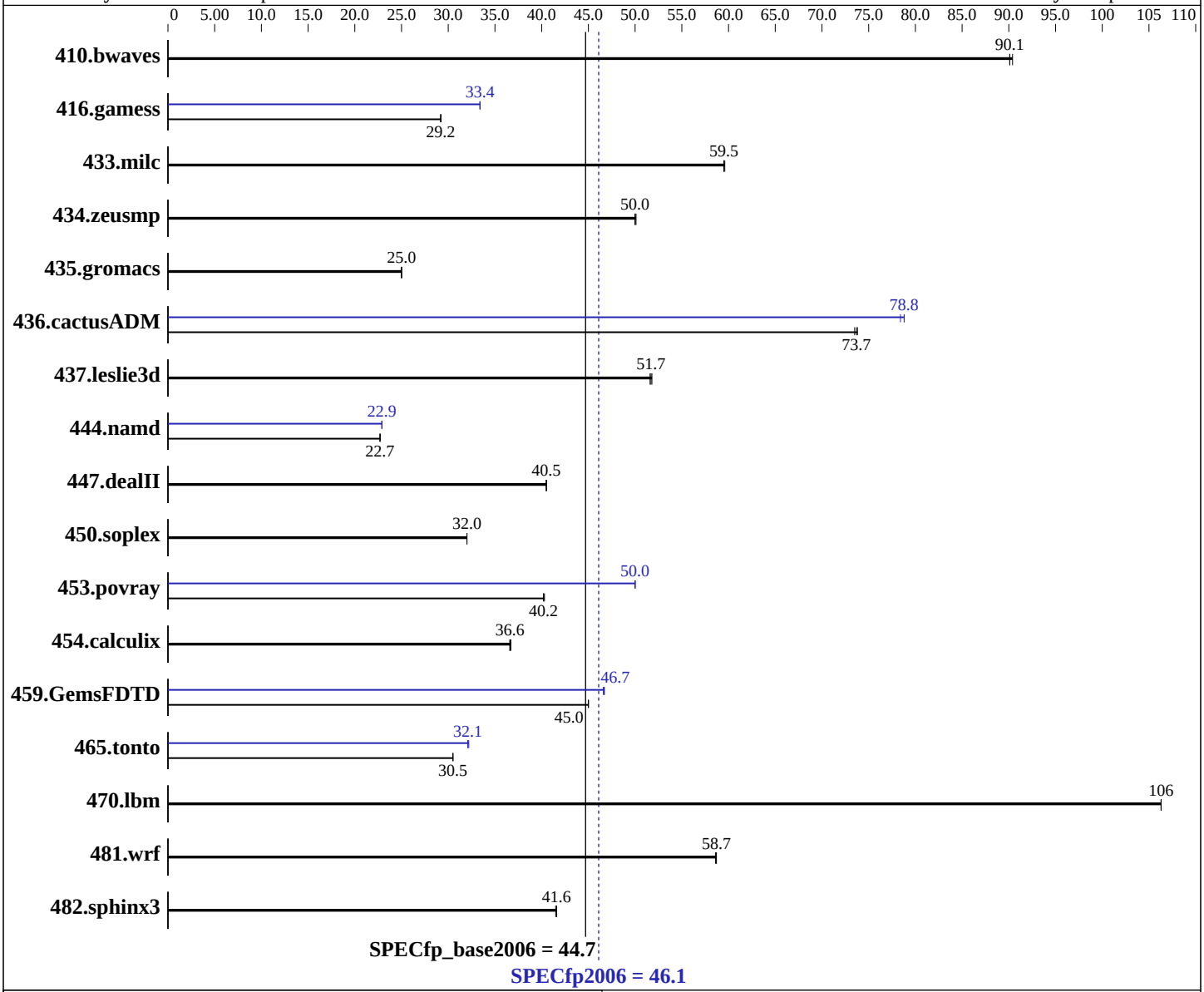
Intel DH61WW motherboard (Intel Core i3-2120)

SPECfp®2006 = 46.1

SPECfp_base2006 = 44.7

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

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



Hardware

CPU Name:	Intel Core i3-2120
CPU Characteristics:	
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
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	150	90.4	**151**	**90.1**	151	90.1	150	90.4	**151**	**90.1**	151	90.1
416.gamess	**670**	**29.2**	670	29.2	670	29.2	587	33.4	**587**	**33.4**	587	33.4
433.milc	154	59.6	**154**	**59.5**	154	59.5	154	59.6	**154**	**59.5**	154	59.5
434.zeusmp	182	50.0	182	50.1	**182**	**50.0**	182	50.0	182	50.1	**182**	**50.0**
435.gromacs	285	25.0	**285**	**25.0**	285	25.0	285	25.0	**285**	**25.0**	285	25.0
436.cactusADM	162	73.8	**162**	**73.7**	163	73.5	152	78.4	152	78.8	**152**	**78.8**
437.leslie3d	181	51.8	182	51.6	**182**	**51.7**	181	51.8	182	51.6	**182**	**51.7**
444.namd	**354**	**22.7**	353	22.7	354	22.7	**350**	**22.9**	350	22.9	350	22.9
447.dealII	282	40.5	**283**	**40.5**	283	40.5	282	40.5	**283**	**40.5**	283	40.5
450.soplex	261	32.0	261	32.0	**261**	**32.0**	261	32.0	261	32.0	**261**	**32.0**
453.povray	132	40.3	132	40.2	**132**	**40.2**	106	50.0	106	50.0	**106**	**50.0**
454.calculix	**225**	**36.6**	225	36.6	225	36.7	**225**	**36.6**	225	36.6	225	36.7
459.GemsFDTD	236	45.0	236	45.0	**236**	**45.0**	**227**	**46.7**	227	46.7	228	46.6
465.tonto	**323**	**30.5**	323	30.5	323	30.5	**306**	**32.1**	306	32.1	306	32.2
470.lbm	129	106	**129**	**106**	129	106	129	106	**129**	**106**	129	106
481.wrf	190	58.7	191	58.6	**190**	**58.7**	190	58.7	191	58.6	**190**	**58.7**
482.sphinx3	470	41.5	**469**	**41.6**	469	41.6	470	41.5	**469**	**41.6**	469	41.6

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:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000
```

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

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

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-QxAVX -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: `-QxAVX`(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: `-QxAVX`(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`

Continued on next page

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxAVX(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: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: -QxAVX(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: -QxAVX(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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