SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

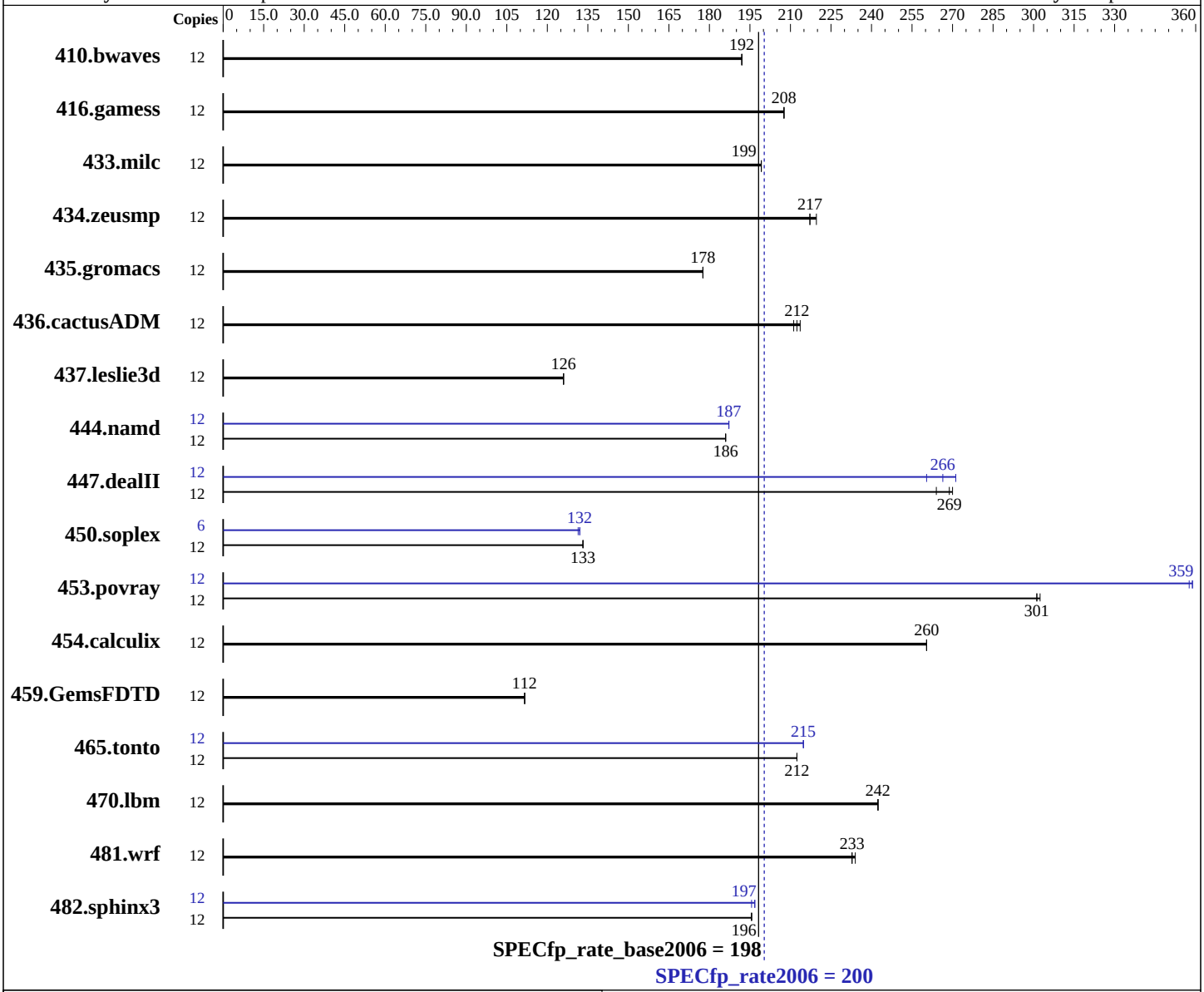
Intel DX79SI motherboard (Intel Core i7-3960X Extreme Edition)

SPECfp®_rate2006 = 200

SPECfp_rate_base2006 = 198

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

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



Hardware

CPU Name:	Intel Core i7-3960X Extreme Edition
CPU Characteristics:	Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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 Visual Fortran Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
Auto Parallel:	No
File System:	NTFS

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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 PC3-12800U-11)
Disk Subsystem: Intel 160 GB SSD
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12	851	192	848	192	**848**	**192**	12	851	192	848	192	**848**	**192**
416.gamess	12	1132	208	1133	208	**1132**	**208**	12	1132	208	1133	208	**1132**	**208**
433.milc	12	554	199	**554**	**199**	555	199	12	554	199	**554**	**199**	555	199
434.zeusmp	12	**502**	**217**	499	220	503	217	12	**502**	**217**	499	220	503	217
435.gromacs	12	482	178	**482**	**178**	482	178	12	482	178	**482**	**178**	482	178
436.cactusADM	12	680	211	**676**	**212**	673	214	12	680	211	**676**	**212**	673	214
437.leslie3d	12	893	126	**893**	**126**	892	126	12	893	126	**893**	**126**	892	126
444.namd	12	518	186	518	186	**518**	**186**	12	**514**	**187**	514	187	514	187
447.dealII	12	**510**	**269**	520	264	509	270	12	506	271	**514**	**266**	527	260
450.soplex	12	**752**	**133**	752	133	752	133	6	**380**	**132**	378	132	381	131
453.povray	12	**212**	**301**	212	301	211	302	12	178	359	179	358	**178**	**359**
454.calculix	12	381	260	**381**	**260**	381	260	12	381	260	**381**	**260**	381	260
459.GemsFDTD	12	1136	112	1138	112	**1137**	**112**	12	1136	112	1138	112	**1137**	**112**
465.tonto	12	**557**	**212**	557	212	557	212	12	549	215	**549**	**215**	550	215
470.lbm	12	681	242	681	242	**681**	**242**	12	681	242	681	242	**681**	**242**
481.wrf	12	576	233	574	234	**575**	**233**	12	576	233	574	234	**575**	**233**
482.sphinx3	12	1195	196	**1197**	**196**	1198	196	12	1194	196	**1186**	**197**	1186	197

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

Submit Notes

```
The config file option 'submit' was used.
 The start command with the /affinity switch was used to bind processes to cores
```

Component Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI HD 6990 discrete graphics card
```

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- -Qansi-alias -Qauto-ilp32 /F1000000000
            -link /FORCE:MULTIPLE
```

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

Fortran benchmarks:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000
            -link /FORCE:MULTIPLE
```

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F1000000000
-link /FORCE:MULTIPLE

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: -QxAVX -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qscalar-rep-
-Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

Continued on next page

Peak Optimization Flags (Continued)

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

453.povray: -QxAVX(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: -QxAVX(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 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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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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