SPEC® CFP2006 Result

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Intel Corporation

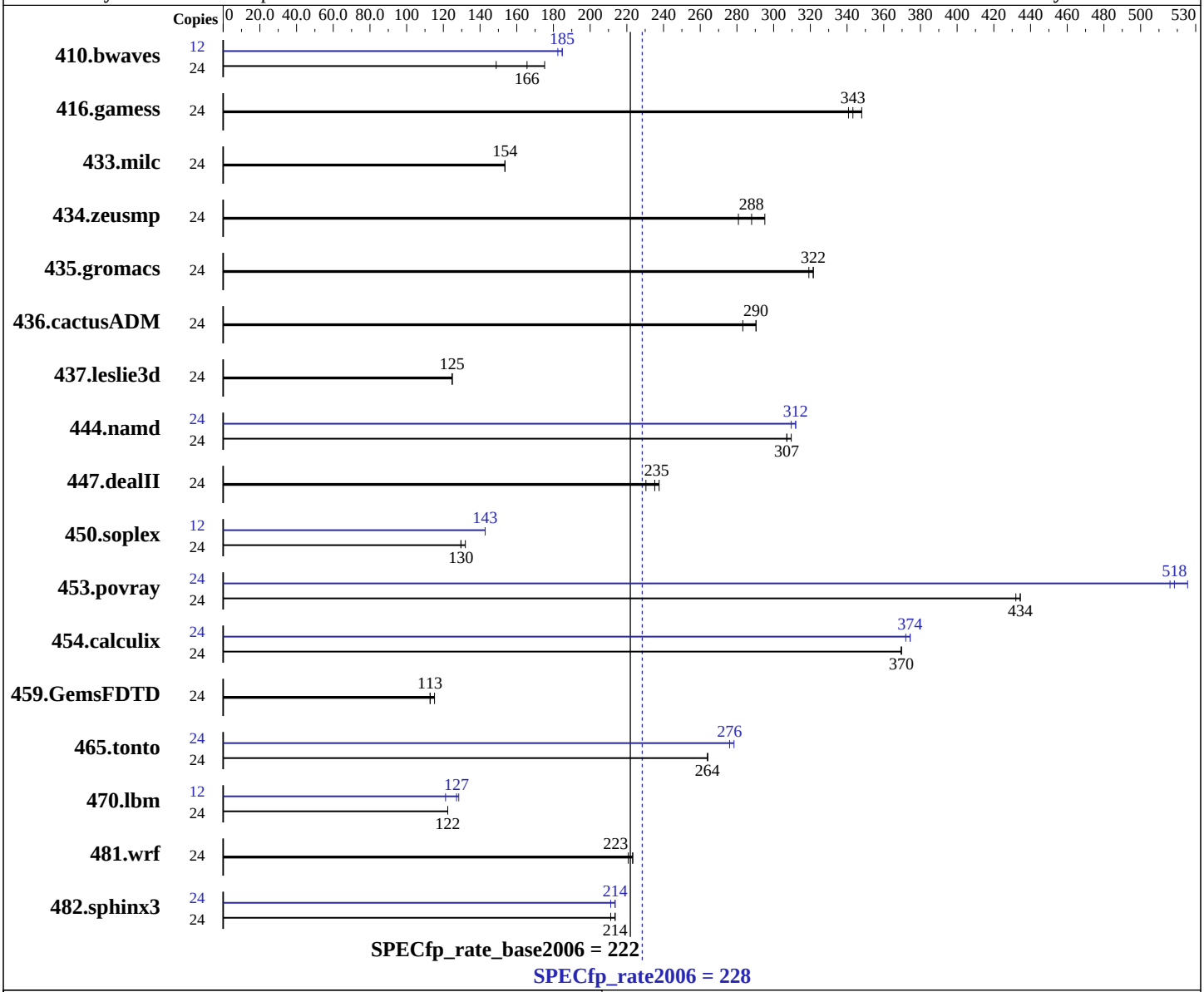
Supermicro SuperServer 7046A-T (Intel Xeon X5680, 3.33 GHz)

SPECfp®_rate2006 = 228

SPECfp_rate_base2006 = 222

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

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Nov-2009



Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
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 Enterprise (64-bit)
Compiler:	Intel C++ Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045 Intel Visual Fortran Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045, w_cprof_p_11.1.045 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	No

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6x 4GB DDR3-1333, ECC, CL9)
Disk Subsystem: 1 x 300 GB SATA, 10000 RPM
Other Hardware: None

File System: NTFS
System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: SmartHeap Library Version 8.1 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	24	2181	149	**1957**	**166**	1852	175	12	895	182	**880**	**185**	880	185
416.gamess	24	**1371**	**343**	1355	348	1378	341	24	**1371**	**343**	1355	348	1378	341
433.milc	24	1445	154	**1435**	**154**	1433	154	24	1445	154	**1435**	**154**	1433	154
434.zeusmp	24	778	281	**760**	**288**	738	295	24	778	281	**760**	**288**	738	295
435.gromacs	24	537	319	533	322	**534**	**322**	24	537	319	533	322	**534**	**322**
436.cactusADM	24	1010	283	**990**	**290**	989	290	24	1010	283	**990**	**290**	989	290
437.leslie3d	24	1816	125	1815	125	**1815**	**125**	24	1816	125	1815	125	**1815**	**125**
444.namd	24	**625**	**307**	626	307	623	310	24	619	312	**619**	**312**	624	310
447.dealII	24	1156	238	1186	230	**1165**	**235**	24	1156	238	1186	230	**1165**	**235**
450.soplex	24	1507	132	**1533**	**130**	1535	130	12	703	143	702	143	**703**	**143**
453.povray	24	**294**	**434**	293	434	295	432	24	243	526	**246**	**518**	247	516
454.calculix	24	534	370	536	370	**535**	**370**	24	529	374	**531**	**374**	531	372
459.GemsFDTD	24	2218	115	**2236**	**113**	2244	113	24	2218	115	**2236**	**113**	2244	113
465.tonto	24	898	264	**896**	**264**	892	264	24	850	278	854	276	**854**	**276**
470.lbm	24	**2707**	**122**	2699	122	2720	122	12	1357	121	**1291**	**127**	1289	128
481.wrf	24	**1200**	**223**	1198	223	1214	221	24	**1200**	**223**	1198	223	1214	221
482.sphinx3	24	**2198**	**214**	2186	214	2227	211	24	2220	211	2196	214	**2197**	**214**

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.
```

General Notes

```
Tested systems is used with tower case,
PC Power and Cooling dual 865W power supplys
System was configured with nVidia Quadro FX 370 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 /Qlowercase
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 -Qlowercase /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 -Qlowercase
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- -Qopt-prefetch -Qauto-ilp32
/F1000000000            -link /FORCE:MULTIPLE
```

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

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -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- -Qopt-prefetch -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: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

482.sphinx3: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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

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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- -Qunroll4 -Qansi-alias -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000 -link /FORCE:MULTIPLE

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: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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-ic11.0-winx64-revA.20100302.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.xml

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