



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®_rate2006 = 77.0

Intel DP55KG motherboard (Intel Core i7-870)

SPECfp_rate_base2006 = 74.0

CPU2006 license: 13

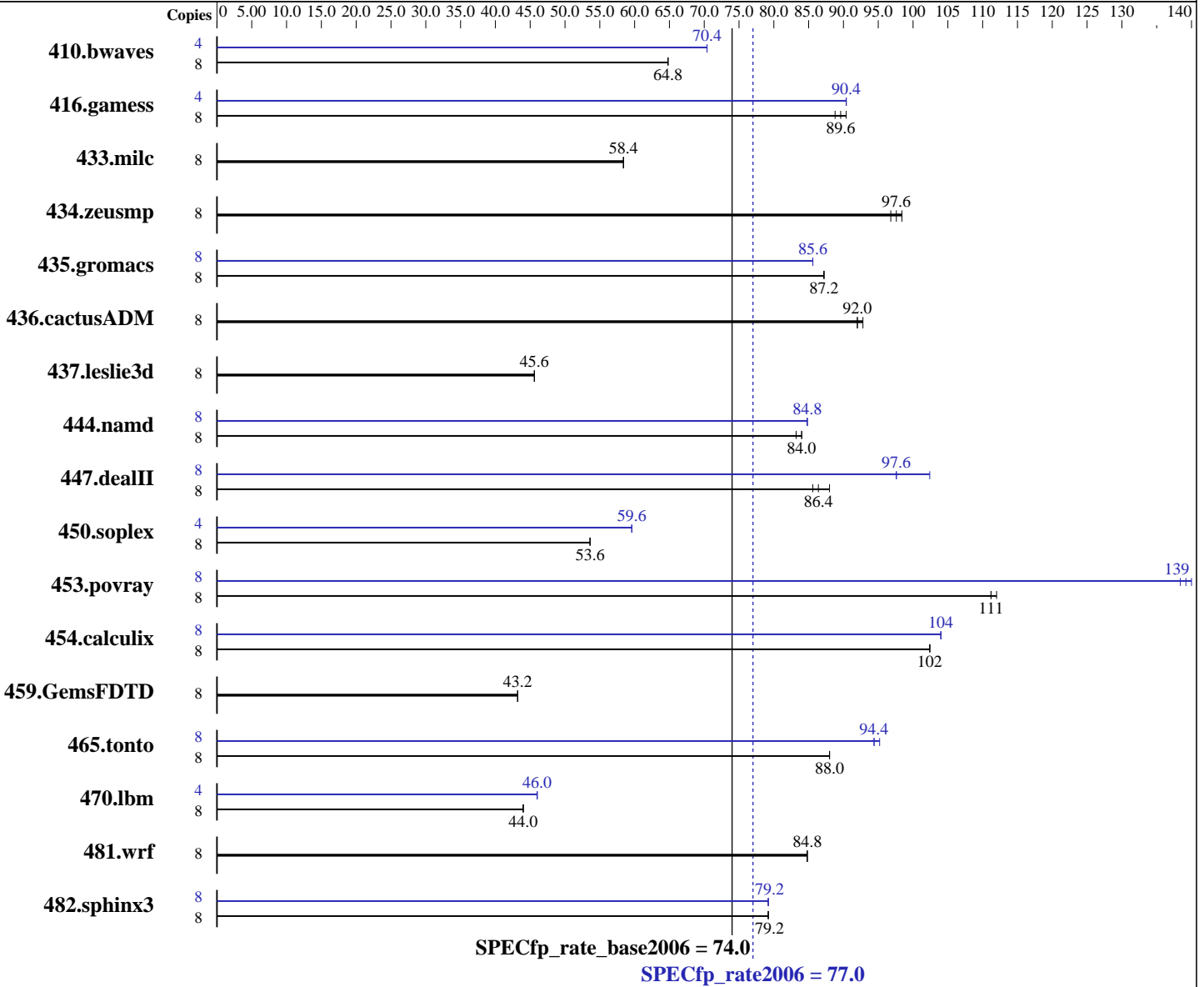
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jan-2010

Hardware Availability: Jun-2009

Software Availability: Oct-2009



Hardware

CPU Name: Intel Core i7-870
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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 Vista Ultimate w/ SP1 (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

Continued on next page



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L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 4 GB (2x2GB Micron MT16JTF25664AZ-1G4 DDR3-1333 CL9)
 Disk Subsystem: Intel X25-M 80GB SSD
 Other Hardware: None

File System: NTFS
 System State: Default
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: None
 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	8	1678	64.8	1680	64.8	1680	64.8	4	773	70.4	773	70.4	773	70.4
416.gamess	8	1769	88.8	1744	89.6	1727	90.4	4	865	90.4	865	90.4	865	90.4
433.milc	8	1262	58.4	1261	58.4	1261	58.4	8	1262	58.4	1261	58.4	1261	58.4
434.zeusmp	8	753	96.8	744	97.6	741	98.4	8	753	96.8	744	97.6	741	98.4
435.gromacs	8	656	87.2	655	87.2	653	87.2	8	668	85.6	665	85.6	665	85.6
436.cactusADM	8	1033	92.8	1041	92.0	1036	92.0	8	1033	92.8	1041	92.0	1036	92.0
437.leslie3d	8	1660	45.6	1659	45.6	1659	45.6	8	1660	45.6	1659	45.6	1659	45.6
444.namd	8	766	84.0	766	84.0	768	83.2	8	760	84.8	760	84.8	758	84.8
447.dealII	8	1058	86.4	1037	88.0	1067	85.6	8	934	97.6	892	102	935	97.6
450.soplex	8	1236	53.6	1237	53.6	1237	53.6	4	559	59.6	559	59.6	560	59.6
453.povray	8	383	111	382	111	381	112	8	305	139	307	138	305	140
454.calculix	8	643	102	642	102	643	102	8	636	104	636	104	636	104
459.GemsFDTD	8	1956	43.2	1955	43.2	1960	43.2	8	1956	43.2	1955	43.2	1960	43.2
465.tonto	8	896	88.0	897	88.0	893	88.0	8	831	94.4	830	95.2	833	94.4
470.lbm	8	2514	44.0	2514	44.0	2514	44.0	4	1199	46.0	1199	46.0	1200	46.0
481.wrf	8	1056	84.8	1058	84.8	1058	84.8	8	1056	84.8	1058	84.8	1058	84.8
482.sphinx3	8	1963	79.2	1961	79.2	1961	79.2	8	1963	79.2	1964	79.2	1966	79.2

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.
Windows start command was used to bind copies to processors

General Notes

Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI 5970 discrete graphics card



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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.lelie3d: -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: -QxSSE4.2(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
```

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Peak Optimization Flags (Continued)

450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 sh1W64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

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

416.gamess: Same as 410.bwaves

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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

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.20100302.01.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.20100302.01.xml>



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