



# SPEC® CFP2006 Result

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## Intel Corporation

### SPECfp®\_rate2006 = 32.7

Intel DQ45CB motherboard (Intel Core 2 Duo E8400)

### SPECfp\_rate\_base2006 = 31.0

CPU2006 license: 13

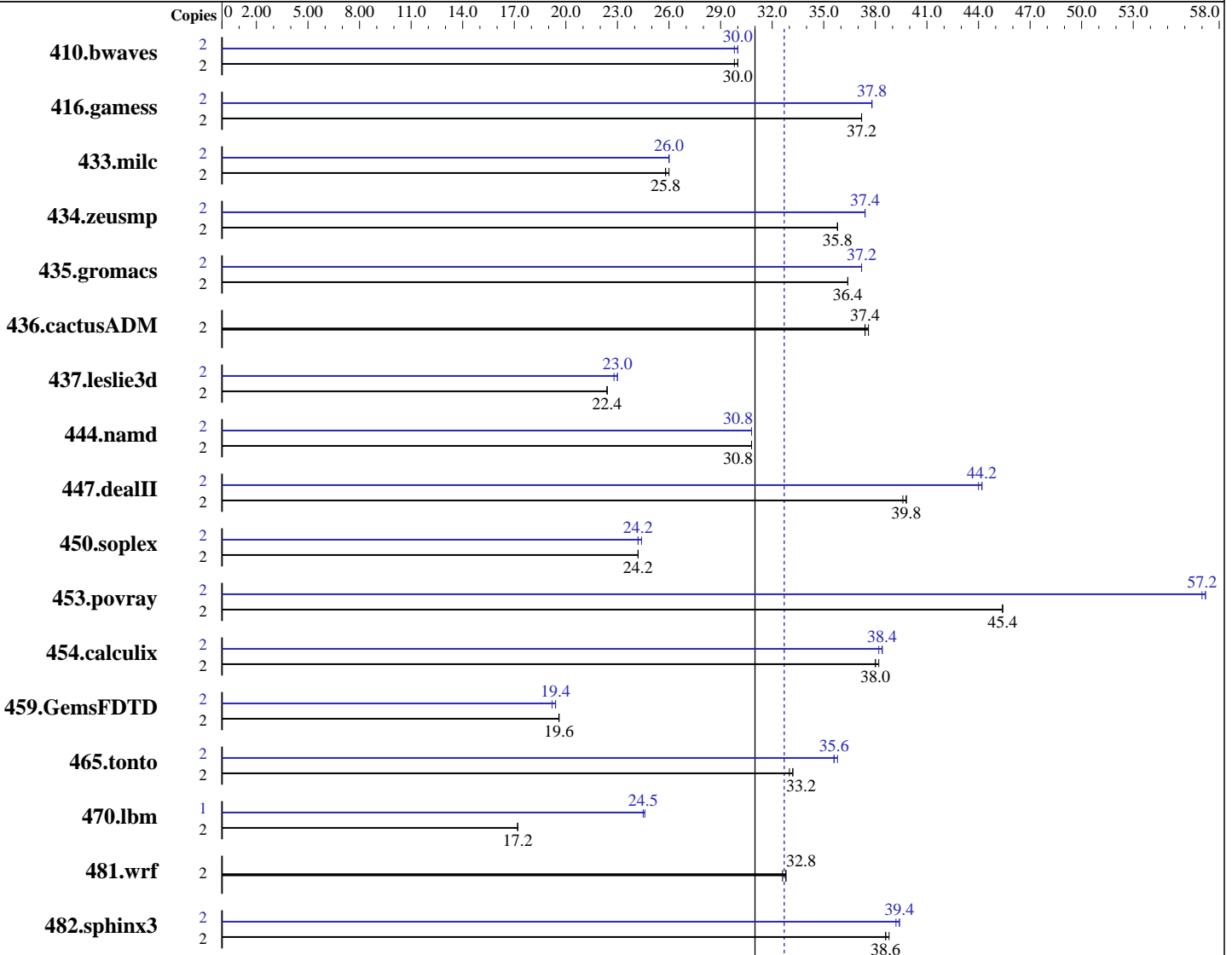
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Apr-2009

Hardware Availability: May-2009

Software Availability: Nov-2008



SPECfp\_rate\_base2006 = 31.0

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### Hardware

CPU Name: Intel Core 2 Duo E8400  
 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: 6 MB I+D on chip per chip

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### Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)  
 Compiler: Intel C++ Compiler Professional 11.0 for IA32  
 Build 20080930 Package ID: w\_cproc\_p\_11.0.054  
 Intel Visual Fortran Compiler Professional 11.0 for IA32  
 Build 20080930 Package ID: w\_cprof\_p\_11.0.054  
 Microsoft Visual Studio 2008 (for libraries)  
 Auto Parallel: No  
 File System: NTFS

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L3 Cache: None  
Other Cache: None  
Memory: 4 GB (4x1GB DDR2-800 CL5)  
Disk Subsystem: Seagate 320 GB SATA, 7200RPM  
Other Hardware: None

System State: Default  
Base Pointers: 32-bit  
Peak Pointers: 32-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	2	905	30.0	<b>908</b>	<b>30.0</b>	910	29.8	2	<b>908</b>	<b>30.0</b>	910	29.8	908	30.0
416.gamess	2	1052	37.2	<b>1052</b>	<b>37.2</b>	1051	37.2	2	1038	37.8	<b>1038</b>	<b>37.8</b>	1038	37.8
433.milc	2	711	25.8	<b>710</b>	<b>25.8</b>	708	26.0	2	<b>708</b>	<b>26.0</b>	708	26.0	708	26.0
434.zeusmp	2	509	35.8	<b>509</b>	<b>35.8</b>	508	35.8	2	487	37.4	<b>487</b>	<b>37.4</b>	486	37.4
435.gromacs	2	393	36.4	393	36.4	<b>393</b>	<b>36.4</b>	2	384	37.2	383	37.2	<b>383</b>	<b>37.2</b>
436.cactusADM	2	637	37.6	<b>638</b>	<b>37.4</b>	639	37.4	2	637	37.6	<b>638</b>	<b>37.4</b>	639	37.4
437.leslie3d	2	838	22.4	<b>840</b>	<b>22.4</b>	841	22.4	2	<b>820</b>	<b>23.0</b>	825	22.8	818	23.0
444.namd	2	522	30.8	521	30.8	<b>521</b>	<b>30.8</b>	2	522	30.8	<b>522</b>	<b>30.8</b>	521	30.8
447.dealII	2	576	39.8	577	39.6	<b>576</b>	<b>39.8</b>	2	520	44.0	<b>518</b>	<b>44.2</b>	518	44.2
450.soplex	2	687	24.2	<b>687</b>	<b>24.2</b>	690	24.2	2	689	24.2	<b>688</b>	<b>24.2</b>	685	24.4
453.povray	2	234	45.4	235	45.4	<b>234</b>	<b>45.4</b>	2	186	57.2	<b>186</b>	<b>57.2</b>	187	57.0
454.calculix	2	<b>433</b>	<b>38.0</b>	433	38.0	433	38.2	2	430	38.4	<b>431</b>	<b>38.4</b>	431	38.2
459.GemsFDTD	2	1080	19.6	1079	19.6	<b>1079</b>	<b>19.6</b>	2	<b>1096</b>	<b>19.4</b>	1100	19.2	1093	19.4
465.tonto	2	598	33.0	593	33.2	<b>593</b>	<b>33.2</b>	2	549	35.8	553	35.6	<b>553</b>	<b>35.6</b>
470.lbm	2	1603	17.2	1601	17.2	<b>1601</b>	<b>17.2</b>	1	562	24.5	559	24.6	<b>560</b>	<b>24.5</b>
481.wrf	2	685	32.6	682	32.8	<b>682</b>	<b>32.8</b>	2	685	32.6	682	32.8	<b>682</b>	<b>32.8</b>
482.sphinx3	2	1009	38.6	<b>1008</b>	<b>38.6</b>	1004	38.8	2	996	39.2	<b>991</b>	<b>39.4</b>	990	39.4

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 can be used with Shin-G ATX case,  
Antec Truepower Trio power supply TP3-650  
Binaries were built on Windows Vista Ultimate (32-bit)

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qc99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc9

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc9 -Qc99 ifort

## Base Portability Flags

436.cactusADM: -Qlowercase /assume:underscore  
444.namd: -TP  
447.dealII: -DDEAL\_II\_MEMBER\_VAR\_SPECIALIZATION\_BUG  
453.povray: -DSPEC\_CPU\_WINDOWS\_ICL  
454.calculix: -DSPEC\_CPU\_NOZMODIFIER -Qlowercase  
481.wrf: -DSPEC\_CPU\_WINDOWS\_ICL

## Base Optimization Flags

C benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

C++ benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

## Peak Compiler Invocation

C benchmarks:

icl -Qvc9 -Qc99

C++ benchmarks:

icl -Qvc9

Fortran benchmarks:

ifort

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## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:  
icl -Qvc9 -Qc99 ifort

## Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore  
444.namd: -TP  
447.dealII: -DDEAL\_II\_MEMBER\_VAR\_SPECIALIZATION\_BUG  
453.povray: -DSPEC\_CPU\_WINDOWS\_ICL  
454.calculix: -DSPEC\_CPU\_NOZMODIFIER -Qlowercase  
481.wrf: -DSPEC\_CPU\_WINDOWS\_ICL

## Peak Optimization Flags

C benchmarks:

433.milc: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Oa /F1000000000

470.lbm: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F1000000000

482.sphinx3: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Oa /F1000000000 shlw32m.lib  
-link /FORCE:MULTIPLE

447.dealII: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias  
-Qscalar-rep- /F1000000000 shlw32m.lib  
-link /FORCE:MULTIPLE

450.soplex: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- /F1000000000 shlw32m.lib  
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000  
shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

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## Peak Optimization Flags (Continued)

410.bwaves: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

416.gamess: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- /F1000000000

437.leslie3d: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

459.GemsFDTD: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch /F1000000000

465.tonto: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.1 -Qipo -O3 -Qprec-div- /F1000000000

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-win32-revA.20090710.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.20090710.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 01:36:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 23 June 2009.