



# SPEC® CFP2006 Result

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## Intel Corporation

### SPECfp®\_rate2006 = 50.2

### Intel DH55PJ Motherboard (Intel Core i3-540)

### SPECfp\_rate\_base2006 = 49.9

CPU2006 license: 13

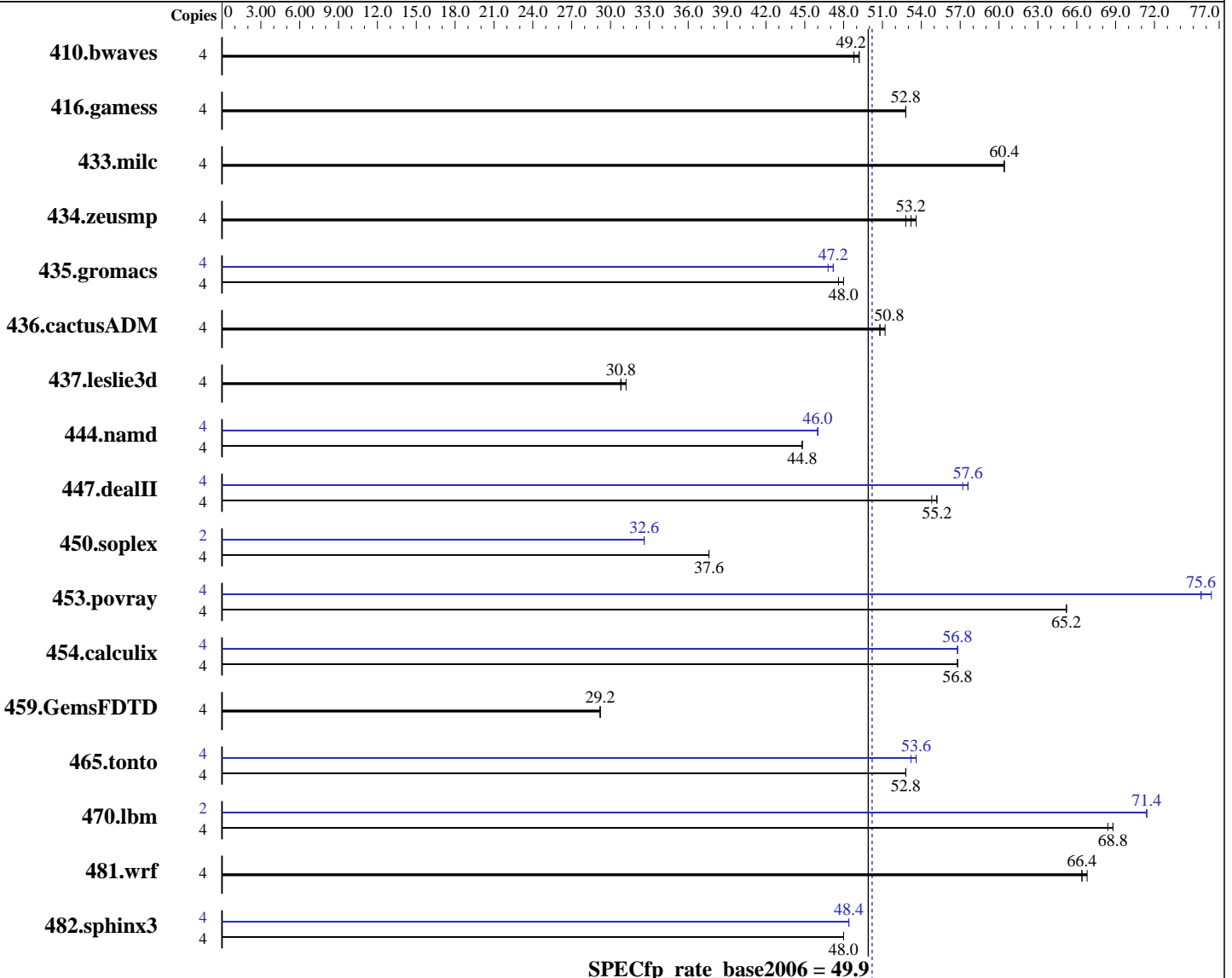
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Feb-2011

Hardware Availability: Jan-2010

Software Availability: Oct-2010



### Hardware

CPU Name: Intel Core i3-540  
 CPU Characteristics: 3066  
 CPU MHz: Integrated  
 FPU: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) enabled: 1 chip  
 CPU(s) orderable: 32 KB I + 32 KB D on chip per core  
 Primary Cache: 256 KB I+D on chip per core  
 Secondary Cache:

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### Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)  
 Compiler: Intel C++ Compiler XE for Intel64  
 Version 12.0.0.104 Build 20101006  
 Intel Visual Fortran Compiler XE for Intel64  
 Version 12.0.0.104 Build 20101006  
 Microsoft Visual Studio 2008 Professional SP1  
 (for libraries)

Auto Parallel: No  
 File System: NTFS

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L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 2Rx8 PC3-10600U-9)  
 Disk Subsystem: Seagate 1 TB 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1115	48.8	<b><u>1106</u></b>	<b><u>49.2</u></b>	1106	49.2	4	1115	48.8	<b><u>1106</u></b>	<b><u>49.2</u></b>	1106	49.2
416.gamess	4	1481	52.8	<b><u>1481</u></b>	<b><u>52.8</u></b>	1482	52.8	4	1481	52.8	<b><u>1481</u></b>	<b><u>52.8</u></b>	1482	52.8
433.milc	4	608	60.4	608	60.4	<b><u>608</u></b>	<b><u>60.4</u></b>	4	608	60.4	608	60.4	<b><u>608</u></b>	<b><u>60.4</u></b>
434.zeusmp	4	681	53.6	691	52.8	<b><u>684</u></b>	<b><u>53.2</u></b>	4	681	53.6	691	52.8	<b><u>684</u></b>	<b><u>53.2</u></b>
435.gromacs	4	596	48.0	<b><u>597</u></b>	<b><u>48.0</u></b>	599	47.6	4	606	47.2	<b><u>607</u></b>	<b><u>47.2</u></b>	608	46.8
436.cactusADM	4	<b><u>938</u></b>	<b><u>50.8</u></b>	938	50.8	937	51.2	4	<b><u>938</u></b>	<b><u>50.8</u></b>	938	50.8	937	51.2
437.leslie3d	4	1215	30.8	<b><u>1213</u></b>	<b><u>30.8</u></b>	1212	31.2	4	1215	30.8	<b><u>1213</u></b>	<b><u>30.8</u></b>	1212	31.2
444.namd	4	717	44.8	718	44.8	<b><u>718</u></b>	<b><u>44.8</u></b>	4	699	46.0	<b><u>699</u></b>	<b><u>46.0</u></b>	699	46.0
447.dealII	4	835	54.8	827	55.2	<b><u>830</u></b>	<b><u>55.2</u></b>	4	<b><u>797</u></b>	<b><u>57.6</u></b>	798	57.2	795	57.6
450.soplex	4	891	37.6	<b><u>890</u></b>	<b><u>37.6</u></b>	889	37.6	2	512	32.6	<b><u>512</u></b>	<b><u>32.6</u></b>	512	32.6
453.povray	4	<b><u>326</u></b>	<b><u>65.2</u></b>	326	65.2	326	65.2	4	<b><u>281</u></b>	<b><u>75.6</u></b>	279	76.4	282	75.6
454.calculix	4	<b><u>580</u></b>	<b><u>56.8</u></b>	580	56.8	579	56.8	4	<b><u>580</u></b>	<b><u>56.8</u></b>	583	56.8	580	56.8
459.GemsFDTD	4	1452	29.2	<b><u>1454</u></b>	<b><u>29.2</u></b>	1462	29.2	4	1452	29.2	<b><u>1454</u></b>	<b><u>29.2</u></b>	1462	29.2
465.tonto	4	<b><u>743</u></b>	<b><u>52.8</u></b>	744	52.8	743	52.8	4	737	53.2	734	53.6	<b><u>734</u></b>	<b><u>53.6</u></b>
470.lbm	4	801	68.4	<b><u>801</u></b>	<b><u>68.8</u></b>	801	68.8	2	<b><u>385</u></b>	<b><u>71.4</u></b>	385	71.4	385	71.4
481.wrf	4	673	66.4	<b><u>671</u></b>	<b><u>66.4</u></b>	670	66.8	4	673	66.4	<b><u>671</u></b>	<b><u>66.4</u></b>	670	66.8
482.sphinx3	4	1620	48.0	<b><u>1620</u></b>	<b><u>48.0</u></b>	1619	48.0	4	1612	48.4	1611	48.4	<b><u>1612</u></b>	<b><u>48.4</u></b>

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

## General Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qstd=c99

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Hardware Availability: Jan-2010

Tested by: Intel Corporation

Software Availability: Oct-2010

## Base Compiler Invocation (Continued)

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:

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

C++ benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qcxx-features  
-Qauto-ilp32 /F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000  
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

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



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## 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 -Qansi-alias  
-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.deallI: -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

450.soplex: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib  
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32  
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

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## Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

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: -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-ic12-winx64-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revA.xml>

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

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