



SPEC[®] CFP2006 Result

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Intel Corporation

SPECfp[®]_rate2006 = 48.7

Intel DQ45CB motherboard (Intel Core 2 Quad Q9650)

SPECfp_rate_base2006 = 46.7

CPU2006 license: 13

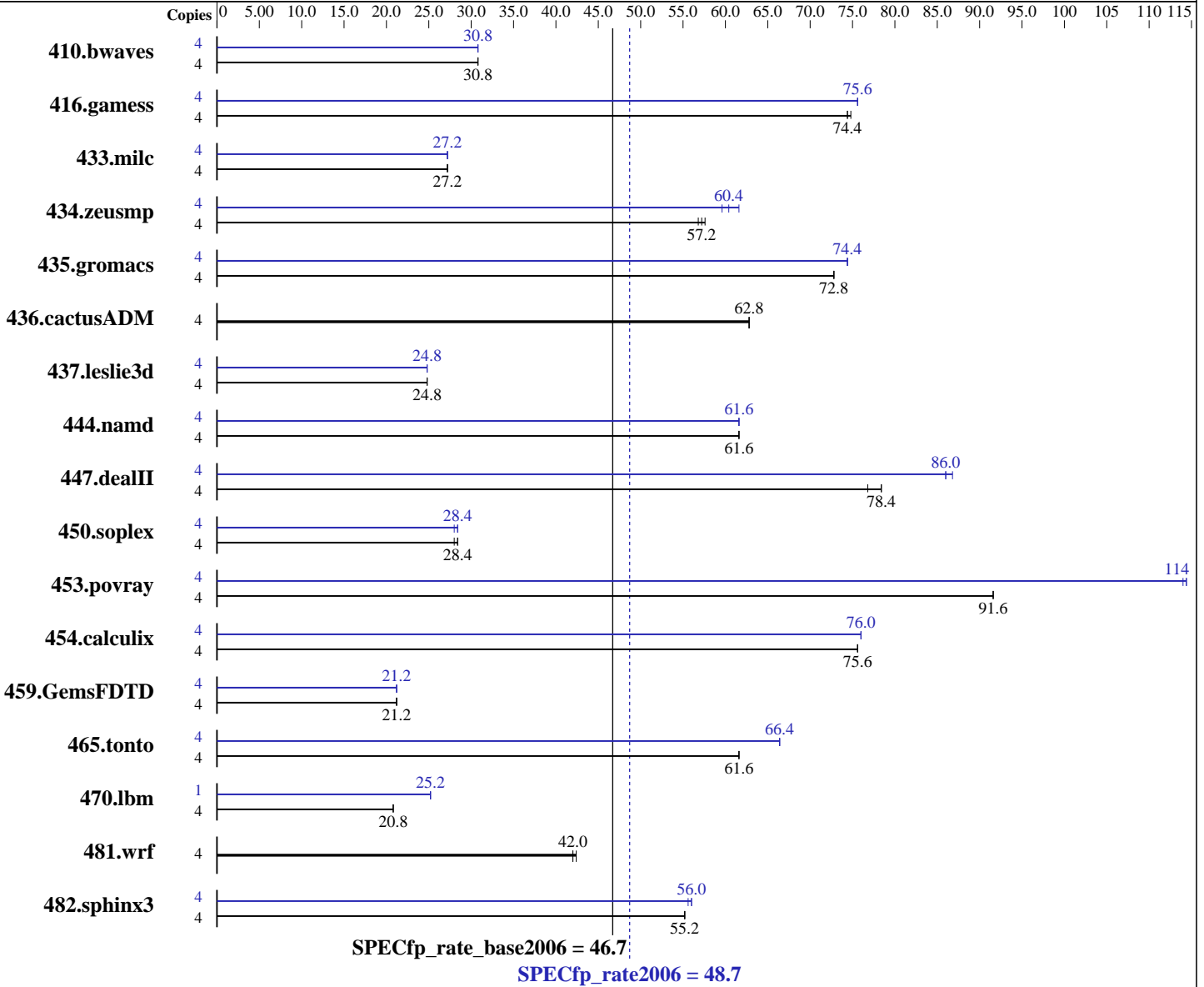
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Apr-2009

Hardware Availability: May-2009

Software Availability: Nov-2008



Hardware

CPU Name: Intel Core 2 Quad Q9650
 CPU Characteristics: 3000
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

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

Continued on next page



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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 | 4 | 1773 | 30.8 | <u>1771</u> | <u>30.8</u> | 1771 | 30.8 | 4 | 1772 | 30.8 | 1771 | 30.8 | <u>1772</u> | <u>30.8</u> |
| 416.gamess | 4 | <u>1050</u> | <u>74.4</u> | 1051 | 74.4 | 1050 | 74.8 | 4 | 1034 | 75.6 | <u>1034</u> | <u>75.6</u> | 1034 | 75.6 |
| 433.milc | 4 | 1349 | 27.2 | <u>1349</u> | <u>27.2</u> | 1350 | 27.2 | 4 | <u>1346</u> | <u>27.2</u> | 1346 | 27.2 | 1345 | 27.2 |
| 434.zeusmp | 4 | <u>637</u> | <u>57.2</u> | 642 | 56.8 | 633 | 57.6 | 4 | <u>604</u> | <u>60.4</u> | 591 | 61.6 | 612 | 59.6 |
| 435.gromacs | 4 | <u>392</u> | <u>72.8</u> | 392 | 72.8 | 392 | 72.8 | 4 | 384 | 74.4 | 383 | 74.4 | <u>384</u> | <u>74.4</u> |
| 436.cactusADM | 4 | <u>762</u> | <u>62.8</u> | 762 | 62.8 | 761 | 62.8 | 4 | <u>762</u> | <u>62.8</u> | 762 | 62.8 | 761 | 62.8 |
| 437.leslie3d | 4 | <u>1519</u> | <u>24.8</u> | 1518 | 24.8 | 1519 | 24.8 | 4 | 1510 | 24.8 | 1511 | 24.8 | <u>1510</u> | <u>24.8</u> |
| 444.namd | 4 | 521 | 61.6 | <u>522</u> | <u>61.6</u> | 522 | 61.6 | 4 | 522 | 61.6 | <u>522</u> | <u>61.6</u> | 522 | 61.6 |
| 447.dealII | 4 | 597 | 76.8 | 584 | 78.4 | <u>585</u> | <u>78.4</u> | 4 | 527 | 86.8 | <u>531</u> | <u>86.0</u> | 532 | 86.0 |
| 450.soplex | 4 | 1183 | 28.0 | <u>1182</u> | <u>28.4</u> | 1179 | 28.4 | 4 | 1176 | 28.4 | 1185 | 28.0 | <u>1179</u> | <u>28.4</u> |
| 453.povray | 4 | 233 | 91.6 | 233 | 91.6 | <u>233</u> | <u>91.6</u> | 4 | 186 | 114 | <u>186</u> | <u>114</u> | 187 | 114 |
| 454.calculix | 4 | 437 | 75.6 | <u>437</u> | <u>75.6</u> | 438 | 75.6 | 4 | <u>434</u> | <u>76.0</u> | 434 | 76.0 | 434 | 76.0 |
| 459.GemsFDTD | 4 | 2002 | 21.2 | <u>1999</u> | <u>21.2</u> | 1998 | 21.2 | 4 | 2003 | 21.2 | 2011 | 21.2 | <u>2009</u> | <u>21.2</u> |
| 465.tonto | 4 | <u>639</u> | <u>61.6</u> | 641 | 61.6 | 638 | 61.6 | 4 | <u>593</u> | <u>66.4</u> | 593 | 66.4 | 593 | 66.4 |
| 470.lbm | 4 | 2656 | 20.8 | <u>2656</u> | <u>20.8</u> | 2655 | 20.8 | 1 | 545 | 25.2 | <u>546</u> | <u>25.2</u> | 546 | 25.2 |
| 481.wrf | 4 | 1054 | 42.4 | <u>1061</u> | <u>42.0</u> | 1061 | 42.0 | 4 | 1054 | 42.4 | <u>1061</u> | <u>42.0</u> | 1061 | 42.0 |
| 482.sphinx3 | 4 | 1417 | 55.2 | <u>1413</u> | <u>55.2</u> | 1410 | 55.2 | 4 | 1400 | 55.6 | <u>1397</u> | <u>56.0</u> | 1396 | 56.0 |

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

Continued on next page



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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

Continued on next page



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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:

Continued on next page



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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.

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 01:00:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 23 June 2009.