



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®2006 = 19.9

Intel DQ45CB motherboard (Intel Core 2 Quad Q8400)

SPECfp_base2006 = 19.3

CPU2006 license: 13

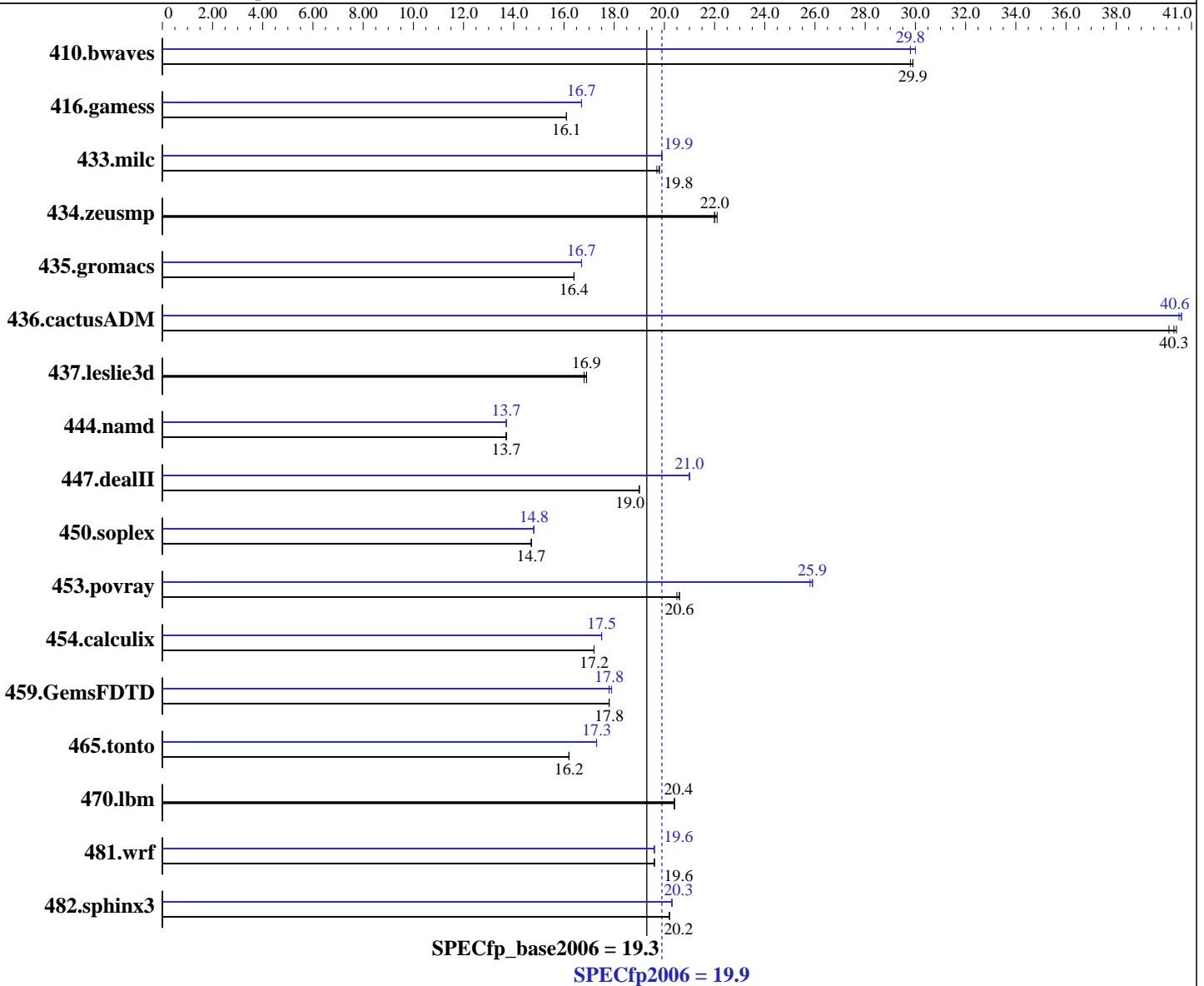
Test date: Apr-2009

Test sponsor: Intel Corporation

Hardware Availability: May-2009

Tested by: Intel Corporation

Software Availability: Nov-2008



Hardware

CPU Name: Intel Core 2 Quad Q8400
 CPU Characteristics:
 CPU MHz: 2666
 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: 4 MB I+D on chip per chip, 2 MB shared / 2 cores

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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: Yes
 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 | | | | | |
|---------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 455 | 29.9 | 456 | 29.8 | 455 | 29.9 | 453 | 30.0 | 456 | 29.8 | 456 | 29.8 |
| 416.gamess | 1216 | 16.1 | 1217 | 16.1 | 1216 | 16.1 | 1175 | 16.7 | 1175 | 16.7 | 1175 | 16.7 |
| 433.milc | 466 | 19.7 | 463 | 19.8 | 463 | 19.8 | 461 | 19.9 | 462 | 19.9 | 462 | 19.9 |
| 434.zeusmp | 413 | 22.0 | 411 | 22.1 | 413 | 22.0 | 413 | 22.0 | 411 | 22.1 | 413 | 22.0 |
| 435.gromacs | 435 | 16.4 | 435 | 16.4 | 435 | 16.4 | 428 | 16.7 | 429 | 16.7 | 428 | 16.7 |
| 436.cactusADM | 298 | 40.1 | 296 | 40.4 | 297 | 40.3 | 295 | 40.5 | 294 | 40.6 | 294 | 40.6 |
| 437.leslie3d | 560 | 16.8 | 556 | 16.9 | 557 | 16.9 | 560 | 16.8 | 556 | 16.9 | 557 | 16.9 |
| 444.namd | 583 | 13.7 | 583 | 13.7 | 583 | 13.7 | 584 | 13.7 | 583 | 13.7 | 583 | 13.7 |
| 447.dealII | 602 | 19.0 | 602 | 19.0 | 602 | 19.0 | 545 | 21.0 | 545 | 21.0 | 545 | 21.0 |
| 450.soplex | 568 | 14.7 | 569 | 14.7 | 568 | 14.7 | 564 | 14.8 | 564 | 14.8 | 564 | 14.8 |
| 453.povray | 259 | 20.5 | 259 | 20.6 | 259 | 20.6 | 206 | 25.9 | 206 | 25.9 | 206 | 25.8 |
| 454.calculix | 481 | 17.2 | 481 | 17.2 | 481 | 17.2 | 472 | 17.5 | 473 | 17.5 | 473 | 17.5 |
| 459.GemsFDTD | 597 | 17.8 | 597 | 17.8 | 597 | 17.8 | 594 | 17.9 | 595 | 17.8 | 595 | 17.8 |
| 465.tonto | 607 | 16.2 | 607 | 16.2 | 608 | 16.2 | 568 | 17.3 | 568 | 17.3 | 569 | 17.3 |
| 470.lbm | 674 | 20.4 | 675 | 20.4 | 675 | 20.4 | 674 | 20.4 | 675 | 20.4 | 675 | 20.4 |
| 481.wrf | 570 | 19.6 | 570 | 19.6 | 570 | 19.6 | 571 | 19.6 | 571 | 19.6 | 571 | 19.6 |
| 482.sphinx3 | 966 | 20.2 | 964 | 20.2 | 966 | 20.2 | 962 | 20.3 | 961 | 20.3 | 962 | 20.3 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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)
Binaries were built on Windows Vista Ultimate (32-bit)
OMP_NUM_THREADS set to number of logical processors as seen by the OS
KMP_AFFINITY set to physical,0

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:

-QxSSSE3 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

C++ benchmarks:

-QxSSSE3 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qcxx-features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSSE3 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:

-QxSSSE3 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

Peak Compiler Invocation

C benchmarks:

icl -Qvc9 -Qc99

C++ benchmarks:

icl -Qvc9

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

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: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa /F1000000000

470.lbm: basepeak = yes

482.sphinx3: -QxSSSE3 -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

447.dealII: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch
-Qansi-alias -Qscalar-rep- /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

450.soplex: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: -QxSSSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000

416.gamess: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: -QxSSSE3(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: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

436.cactusADM: -QxSSSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

454.calculix: -QxSSSE3 -Qipo -O3 -Qprec-div- /F1000000000

481.wrf: -QxSSSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000

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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