



SPEC® CFP2006 Result

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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp®2006 = 25.8

ASUSTek M4A89GTD PRO/USB3 (Phenom II X3 720)

SPECfp_base2006 = 25.2

CPU2006 license: 13

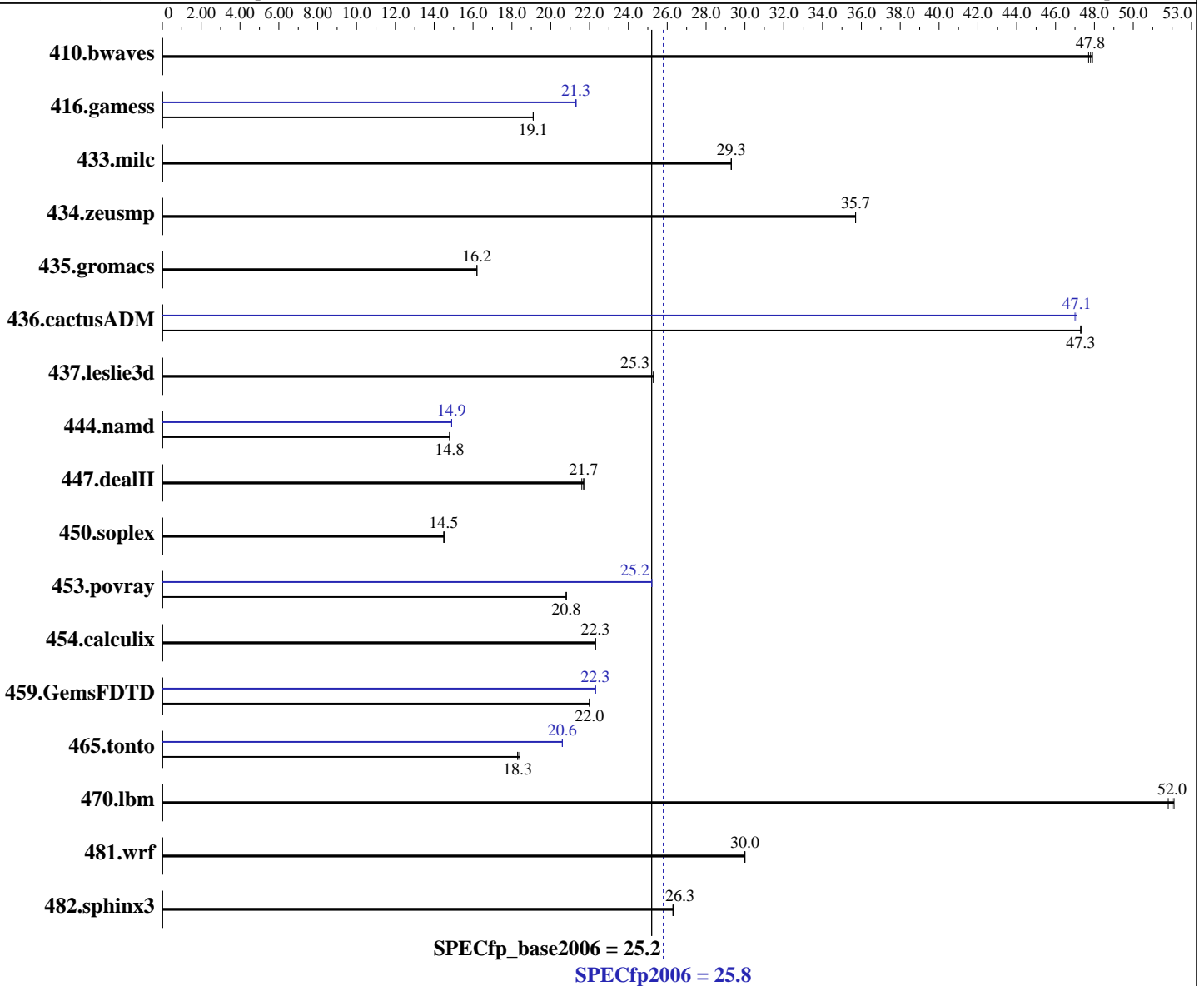
Test date: Jun-2011

Test sponsor: Intel Corporation

Hardware Availability: Feb-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



Hardware

CPU Name: AMD Phenom II X3 720
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 3 cores, 1 chip, 3 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core

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Software

Operating System: Windows 7 Ultimate (64-bit)
 Compiler: Intel C++ Compiler XE for Intel 64
 Version 12.0.3.176 Build 20110309
 Intel Visual Fortran Compiler XE for Intel 64
 Version 12.0.3.176 Build 20110309
 Microsoft Visual Studio 2008 Professional SP1
 (for libraries)
 Auto Parallel: Yes
 File System: NTFS

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L3 Cache: 6 MB I+D on chip per chip
Other Cache: None
Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)
Disk Subsystem: 1 TB Seagate 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 | | | | | |
|---------------|-------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 285 | 47.7 | 284 | 47.8 | 284 | 47.9 | 285 | 47.7 | 284 | 47.8 | 284 | 47.9 |
| 416.gamess | 1027 | 19.1 | 1027 | 19.1 | 1027 | 19.1 | 917 | 21.3 | 917 | 21.3 | 917 | 21.3 |
| 433.milc | 313 | 29.3 | 313 | 29.3 | 313 | 29.3 | 313 | 29.3 | 313 | 29.3 | 313 | 29.3 |
| 434.zeusmp | 255 | 35.7 | 255 | 35.7 | 255 | 35.7 | 255 | 35.7 | 255 | 35.7 | 255 | 35.7 |
| 435.gromacs | 442 | 16.2 | 442 | 16.1 | 442 | 16.2 | 442 | 16.2 | 442 | 16.1 | 442 | 16.2 |
| 436.cactusADM | 253 | 47.3 | 253 | 47.3 | 253 | 47.3 | 254 | 47.1 | 254 | 47.1 | 254 | 47.0 |
| 437.leslie3d | 372 | 25.3 | 372 | 25.3 | 372 | 25.3 | 372 | 25.3 | 372 | 25.3 | 372 | 25.3 |
| 444.namd | 543 | 14.8 | 543 | 14.8 | 543 | 14.8 | 538 | 14.9 | 538 | 14.9 | 538 | 14.9 |
| 447.dealII | 528 | 21.7 | 528 | 21.7 | 529 | 21.6 | 528 | 21.7 | 528 | 21.7 | 529 | 21.6 |
| 450.soplex | 575 | 14.5 | 575 | 14.5 | 575 | 14.5 | 575 | 14.5 | 575 | 14.5 | 575 | 14.5 |
| 453.povray | 256 | 20.8 | 256 | 20.8 | 256 | 20.8 | 211 | 25.2 | 211 | 25.2 | 211 | 25.2 |
| 454.calculix | 370 | 22.3 | 370 | 22.3 | 370 | 22.3 | 370 | 22.3 | 370 | 22.3 | 370 | 22.3 |
| 459.GemsFDTD | 482 | 22.0 | 482 | 22.0 | 482 | 22.0 | 475 | 22.3 | 475 | 22.3 | 476 | 22.3 |
| 465.tonto | 536 | 18.4 | 536 | 18.3 | 537 | 18.3 | 477 | 20.6 | 477 | 20.6 | 477 | 20.6 |
| 470.lbm | 264 | 52.1 | 265 | 51.8 | 264 | 52.0 | 264 | 52.1 | 265 | 51.8 | 264 | 52.0 |
| 481.wrf | 372 | 30.0 | 373 | 30.0 | 372 | 30.0 | 372 | 30.0 | 373 | 30.0 | 372 | 30.0 |
| 482.sphinx3 | 742 | 26.3 | 742 | 26.3 | 742 | 26.3 | 742 | 26.3 | 742 | 26.3 | 742 | 26.3 |

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,
PC Power and Cooling 1200W power supply
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

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Base Compiler Invocation (Continued)

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:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000

C++ benchmarks:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 -Qprec-div- /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000



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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: basepeak = yes
482.sphinx3: basepeak = yes
C++ benchmarks:
444.namd: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE
447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: /arch:SSE3(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: basepeak = yes
416.gamess: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias
-Qscalar-rep- /F1000000000

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Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel
/F1000000000

465.tonto: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc
/F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2
-Qauto-ilp32 /F1000000000

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.html>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html>

You can also download the XML flags sources by saving the following links:

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

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml>

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For other inquiries, please contact webmaster@spec.org.

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