# SPEC® CFP2006 Result

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## ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

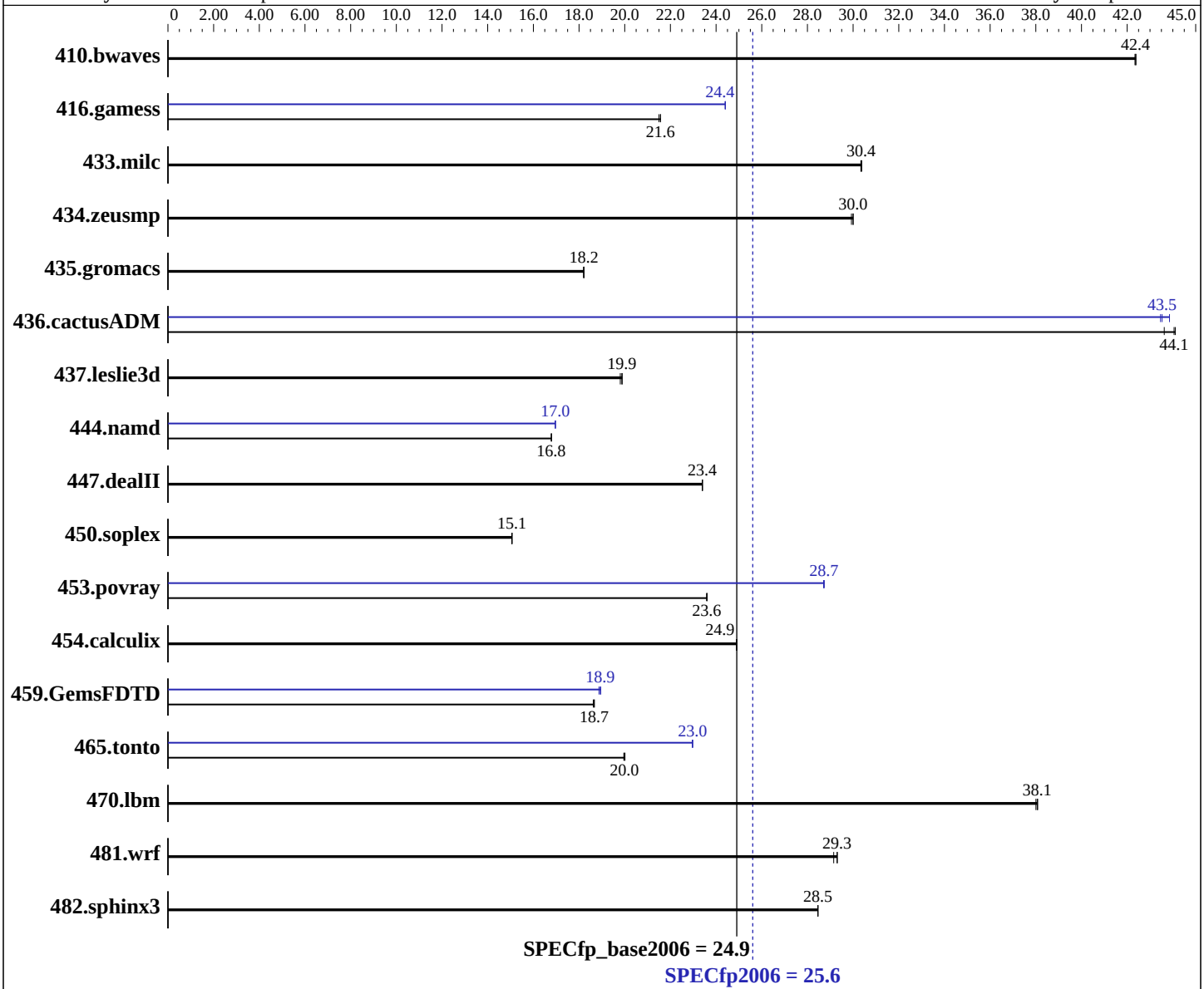
## Asus M4A89GTD-PRO (Phenom II X2 555)

SPECfp®2006 = 25.6

SPECfp_base2006 = 24.9

**CPU2006 license:** 13
**Test sponsor:** Intel Corporation
**Tested by:** Intel Corporation

**Test date:** May-2011
**Hardware Availability:** Apr-2010
**Software Availability:** Apr-2011




## Hardware

| | |
|---|---|
| CPU Name: | AMD Phenom II X2 555 |
| CPU Characteristics: | |
| CPU MHz: | 3200 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 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<br>Intel Visual Fortran Compiler XE for Intel 64 Version 12.0.3.176 Build 20110309<br>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: 8 GB (2 x 4 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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | **321** | **42.4** | 321 | 42.4 | 321 | 42.3 | **321** | **42.4** | 321 | 42.4 | 321 | 42.3 |
| 416.gamess | **908** | **21.6** | 908 | 21.6 | 911 | 21.5 | 802 | 24.4 | **802** | **24.4** | 802 | 24.4 |
| 433.milc | 302 | 30.4 | 303 | 30.3 | **302** | **30.4** | 302 | 30.4 | 303 | 30.3 | **302** | **30.4** |
| 434.zeusmp | 304 | 29.9 | **303** | **30.0** | 303 | 30.0 | 304 | 29.9 | **303** | **30.0** | 303 | 30.0 |
| 435.gromacs | 392 | 18.2 | 392 | 18.2 | **392** | **18.2** | 392 | 18.2 | 392 | 18.2 | **392** | **18.2** |
| 436.cactusADM | 271 | 44.1 | 274 | 43.6 | **271** | **44.1** | 275 | 43.5 | **275** | **43.5** | 272 | 43.9 |
| 437.leslie3d | **473** | **19.9** | 473 | 19.9 | 475 | 19.8 | **473** | **19.9** | 473 | 19.9 | 475 | 19.8 |
| 444.namd | 478 | 16.8 | **478** | **16.8** | 478 | 16.8 | 473 | 17.0 | 473 | 17.0 | **473** | **17.0** |
| 447.dealII | 489 | 23.4 | 489 | 23.4 | **489** | **23.4** | 489 | 23.4 | 489 | 23.4 | **489** | **23.4** |
| 450.soplex | **554** | **15.1** | 553 | 15.1 | 554 | 15.1 | **554** | **15.1** | 553 | 15.1 | 554 | 15.1 |
| 453.povray | **225** | **23.6** | 226 | 23.6 | 225 | 23.6 | 185 | 28.7 | **185** | **28.7** | 185 | 28.7 |
| 454.calculix | 331 | 24.9 | **331** | **24.9** | 331 | 24.9 | 331 | 24.9 | **331** | **24.9** | 331 | 24.9 |
| 459.GemsFDTD | 570 | 18.6 | **568** | **18.7** | 568 | 18.7 | 562 | 18.9 | 560 | 19.0 | **561** | **18.9** |
| 465.tonto | 492 | 20.0 | **492** | **20.0** | 493 | 20.0 | 428 | 23.0 | 429 | 23.0 | **428** | **23.0** |
| 470.lbm | **361** | **38.1** | 361 | 38.1 | 362 | 38.0 | **361** | **38.1** | 361 | 38.1 | 362 | 38.0 |
| 481.wrf | 381 | 29.3 | 383 | 29.2 | **381** | **29.3** | 381 | 29.3 | 383 | 29.2 | **381** | **29.3** |
| 482.sphinx3 | 685 | 28.5 | 685 | 28.5 | **685** | **28.5** | 685 | 28.5 | 685 | 28.5 | **685** | **28.5** |

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

## 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 shlW64M.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 shlW64M.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-revB.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-revB.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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