# SPEC® CFP2006 Result



## Supermicro

(Test Sponsor: Intel Corporation)

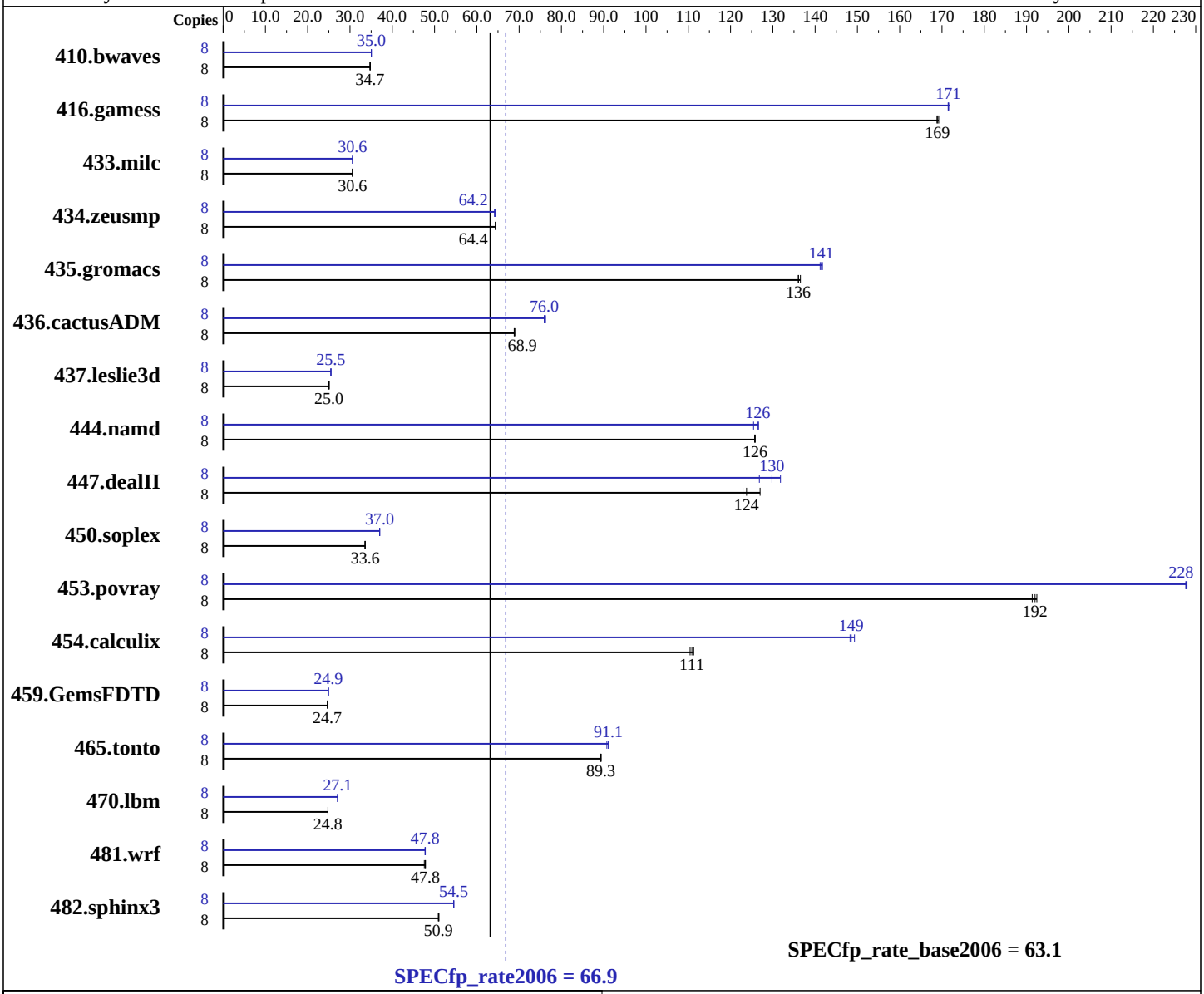
Supermicro X7DB8+ (Intel Xeon processor X5365, 3.00 GHz)

SPECfp®_rate2006 = 66.9

SPECfp_rate_base2006 = 63.1

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

**Test date:** Aug-2007
**Hardware Availability:** Sep-2007
**Software Availability:** Nov-2007




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5365 |
| CPU Characteristics: | Quad Core, 3.0 GHz |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |

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## Software

| | |
|---|---|
| Operating System: | 64-Bit SUSE LINUX Enterprise Server 10 SP1, Kernel linux-cbgm 2.6.16.43-0.5-smp for x86_64 |
| Compiler: | Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 Build 20070725 |
| Auto Parallel: | No |
| File System: | ReiserFS |
| System State: | Multi-user, run level 3 |
| Base Pointers: | 64-bit |

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 * 2GB Samsung DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: Seagate, SCSI, 73GB, 10Krpm, 1 disk only
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 8 | 3123 | 34.8 | 3131 | 34.7 | **3130** | **34.7** | 8 | 3102 | 35.0 | 3102 | 35.0 | **3102** | **35.0** |
| 416.gamess | 8 | 926 | 169 | 928 | 169 | **927** | **169** | 8 | 914 | 171 | 912 | 172 | **913** | **171** |
| 433.milc | 8 | 2403 | 30.6 | **2399** | **30.6** | 2397 | 30.6 | 8 | **2399** | **30.6** | 2399 | 30.6 | 2398 | 30.6 |
| 434.zeusmp | 8 | 1130 | 64.4 | 1130 | 64.4 | **1130** | **64.4** | 8 | **1134** | **64.2** | 1134 | 64.2 | 1132 | 64.3 |
| 435.gromacs | 8 | 420 | 136 | 418 | 137 | **420** | **136** | 8 | **404** | **141** | 405 | 141 | 403 | 142 |
| 436.cactusADM | 8 | **1387** | **68.9** | 1389 | 68.8 | 1386 | 69.0 | 8 | **1258** | **76.0** | 1259 | 75.9 | 1254 | 76.2 |
| 437.leslie3d | 8 | **3004** | **25.0** | 3008 | 25.0 | 2997 | 25.1 | 8 | **2952** | **25.5** | 2948 | 25.5 | 2952 | 25.5 |
| 444.namd | 8 | **510** | **126** | 510 | 126 | 510 | 126 | 8 | **507** | **126** | 511 | 125 | 507 | 127 |
| 447.dealII | 8 | 744 | 123 | 721 | 127 | **739** | **124** | 8 | **705** | **130** | 694 | 132 | 722 | 127 |
| 450.soplex | 8 | 1989 | 33.5 | 1986 | 33.6 | **1986** | **33.6** | 8 | 1803 | 37.0 | **1803** | **37.0** | 1800 | 37.1 |
| 453.povray | 8 | 222 | 191 | **222** | **192** | 221 | 192 | 8 | 187 | 228 | 187 | 228 | **187** | **228** |
| 454.calculix | 8 | 593 | 111 | 598 | 110 | **595** | **111** | 8 | 442 | 149 | 445 | 148 | **444** | **149** |
| 459.GemsFDTD | 8 | **3442** | **24.7** | 3442 | 24.7 | 3433 | 24.7 | 8 | **3411** | **24.9** | 3411 | 24.9 | 3409 | 24.9 |
| 465.tonto | 8 | **881** | **89.3** | 880 | 89.4 | 882 | 89.3 | 8 | 864 | 91.1 | 867 | 90.7 | **864** | **91.1** |
| 470.lbm | 8 | 4432 | 24.8 | **4432** | **24.8** | 4435 | 24.8 | 8 | **4058** | **27.1** | 4057 | 27.1 | 4058 | 27.1 |
| 481.wrf | 8 | 1867 | 47.9 | 1878 | 47.6 | **1869** | **47.8** | 8 | **1871** | **47.8** | 1871 | 47.8 | 1869 | 47.8 |
| 482.sphinx3 | 8 | 3055 | 51.0 | 3065 | 50.9 | **3061** | **50.9** | 8 | 2861 | 54.5 | 2858 | 54.6 | **2858** | **54.5** |

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

## General Notes

```
Bios settings:
Hardware Prefetcher:      Disabled
Adjacent Sector Prefetch: Disabled
All benchmarks compiled in 64-bit mode except 437.leslie3d,
450.soplex, 470.lbm and 482.sphinx3, for peak, are
compiled in 32-bit mode
The taskset command was used to bind processes to cores
```

## Base Compiler Invocation

C benchmarks:
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

## Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

## Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

## Peak Compiler Invocation

C benchmarks (except as noted below):
```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: `icc`

C++ benchmarks (except as noted below):
```
icpc
```

450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

Fortran benchmarks (except as noted below):
```
ifort
```

437.leslie3d: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

Benchmarks using both Fortran and C:
```
icc ifort
```

## Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
433.milc: `-DSPEC_CPU_LP64`
434.zeusmp: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64 -nofor_main`
436.cactusADM: `-DSPEC_CPU_LP64 -nofor_main`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

## Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

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## Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.32.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.32.xml



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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