# SPEC® CFP2006 Result

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## Acer Incorporated

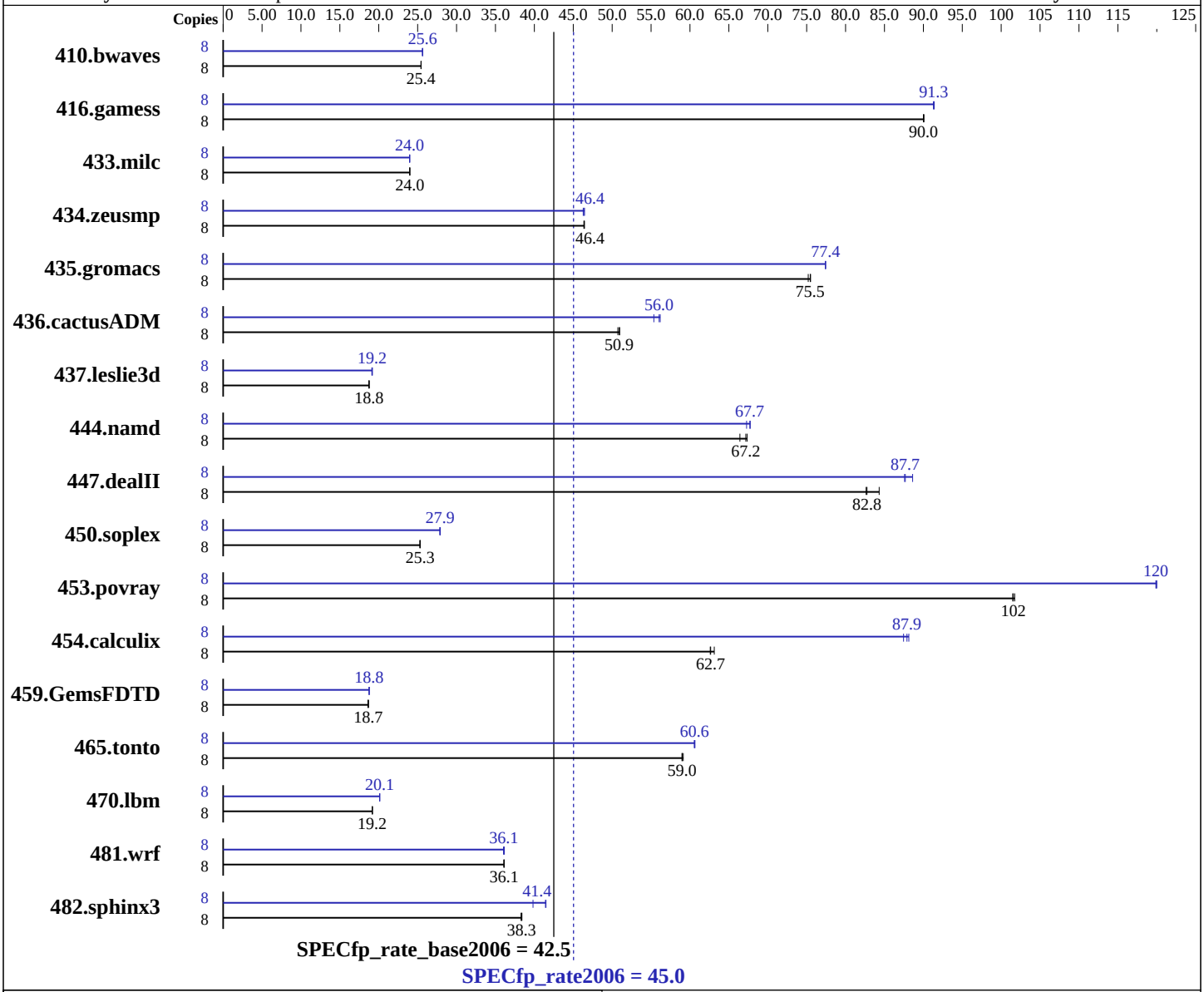
## Acer Altos G540 (Intel Xeon E5310)

SPECfp®_rate2006 = 45.0

SPECfp_rate_base2006 = 42.5

**CPU2006 license:** 97
**Test sponsor:** Acer Incorporated
**Tested by:** Acer Incorporated

**Test date:** Oct-2007
**Hardware Availability:** Nov-2006
**Software Availability:** Nov-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5310 |
| CPU Characteristics: | 1066MHz system bus |
| CPU MHz: | 1600 |
| 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: | SUSE Linux Enterprise Server 10 EM64T (kernel 2.6.16.21-0.8-smp) |
| 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 x 2048MB ECC FB-DIMM DDR2-667 CL5-5-5)
Disk Subsystem: 1 x 73 GB 10000RPM SAS HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 8.1

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 8 | 4272 | 25.4 | 4275 | 25.4 | **4274** | **25.4** | 8 | **4242** | **25.6** | 4243 | 25.6 | 4241 | 25.6 |
| 416.gamess | 8 | 1740 | 90.0 | **1740** | **90.0** | 1739 | 90.1 | 8 | **1715** | **91.3** | 1714 | 91.4 | 1715 | 91.3 |
| 433.milc | 8 | 3061 | 24.0 | **3061** | **24.0** | 3063 | 24.0 | 8 | 3062 | 24.0 | **3064** | **24.0** | 3064 | 24.0 |
| 434.zeusmp | 8 | 1570 | 46.4 | **1568** | **46.4** | 1568 | 46.4 | 8 | 1567 | 46.4 | 1573 | 46.3 | **1570** | **46.4** |
| 435.gromacs | 8 | **757** | **75.5** | 757 | 75.5 | 760 | 75.2 | 8 | 738 | 77.4 | **738** | **77.4** | 738 | 77.4 |
| 436.cactusADM | 8 | **1878** | **50.9** | 1885 | 50.7 | 1876 | 51.0 | 8 | **1706** | **56.0** | 1727 | 55.4 | 1702 | 56.2 |
| 437.leslie3d | 8 | 4006 | 18.8 | **4007** | **18.8** | 4019 | 18.7 | 8 | 3921 | 19.2 | 3935 | 19.1 | **3926** | **19.2** |
| 444.namd | 8 | 966 | 66.4 | **955** | **67.2** | 953 | 67.4 | 8 | 947 | 67.7 | **948** | **67.7** | 954 | 67.3 |
| 447.dealII | 8 | 1085 | 84.3 | 1107 | 82.6 | **1106** | **82.8** | 8 | 1033 | 88.6 | **1044** | **87.7** | 1045 | 87.6 |
| 450.soplex | 8 | **2636** | **25.3** | 2636 | 25.3 | 2638 | 25.3 | 8 | **2393** | **27.9** | 2396 | 27.8 | 2391 | 27.9 |
| 453.povray | 8 | **419** | **102** | 418 | 102 | 419 | 101 | 8 | 355 | 120 | **355** | **120** | 355 | 120 |
| 454.calculix | 8 | **1053** | **62.7** | 1054 | 62.6 | 1046 | 63.1 | 8 | 749 | 88.1 | 755 | 87.5 | **751** | **87.9** |
| 459.GemsFDTD | 8 | 4563 | 18.6 | **4550** | **18.7** | 4543 | 18.7 | 8 | 4525 | 18.8 | **4524** | **18.8** | 4520 | 18.8 |
| 465.tonto | 8 | **1334** | **59.0** | 1335 | 59.0 | 1331 | 59.1 | 8 | 1300 | 60.6 | 1298 | 60.6 | **1299** | **60.6** |
| 470.lbm | 8 | 5733 | 19.2 | **5733** | **19.2** | 5732 | 19.2 | 8 | 5463 | 20.1 | **5463** | **20.1** | 5462 | 20.1 |
| 481.wrf | 8 | 2474 | 36.1 | 2477 | 36.1 | **2475** | **36.1** | 8 | **2476** | **36.1** | 2473 | 36.1 | 2479 | 36.0 |
| 482.sphinx3 | 8 | 4072 | 38.3 | 4060 | 38.4 | **4066** | **38.3** | 8 | 3915 | 39.8 | 3758 | 41.5 | **3764** | **41.4** |

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

## General Notes

```
All results used taskset to bind processes to cores
```

## Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Continued on next page

## Base Compiler Invocation (Continued)

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

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# Peak Compiler Invocation (Continued)

C benchmarks (except as noted below) (continued):
`-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.20090714.17.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.20090714.17.xml


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