# SPEC® CFP2006 Result

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## Acer Incorporated

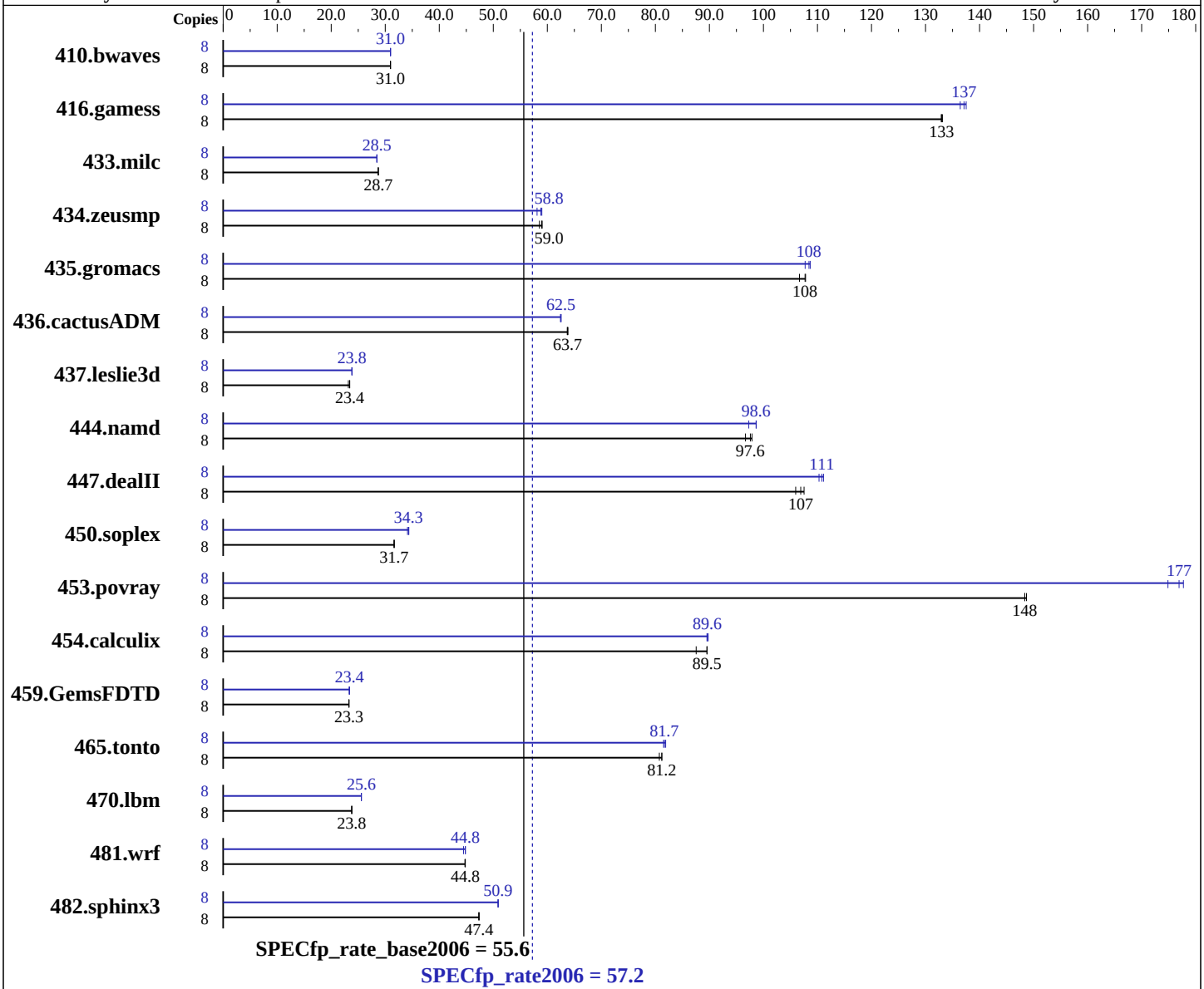
## Acer Altos R520 (Intel Xeon E5345)

SPECfp®_rate2006 = 57.2

SPECfp_rate_base2006 = 55.6

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

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




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5345 |
| CPU Characteristics: | 1333MHz system bus |
| CPU MHz: | 2330 |
| 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++ Compiler for Linux32 version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023<br>Intel Fortran Compiler for Linux32 version 10.0 Build 20070426 Package ID: l_fc_p_10.0.023 |
| Auto Parallel: | No |
| File System: | ReiserFS |
| System State: | Default |

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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 73GB 10000RPM SAS HDD
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: None

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 8 | 3512 | 31.0 | 3509 | 31.0 | **3510** | **31.0** | 8 | 3510 | 31.0 | 3509 | 31.0 | **3509** | **31.0** |
| 416.gamess | 8 | 1177 | 133 | **1178** | **133** | 1179 | 133 | 8 | **1142** | **137** | 1148 | 136 | 1139 | 138 |
| 433.milc | 8 | 2559 | 28.7 | 2557 | 28.7 | **2558** | **28.7** | 8 | 2582 | 28.4 | **2581** | **28.5** | 2580 | 28.5 |
| 434.zeusmp | 8 | **1235** | **59.0** | 1244 | 58.5 | 1233 | 59.0 | 8 | 1253 | 58.1 | 1234 | 59.0 | **1238** | **58.8** |
| 435.gromacs | 8 | 535 | 107 | **530** | **108** | 530 | 108 | 8 | 526 | 109 | **527** | **108** | 530 | 108 |
| 436.cactusADM | 8 | **1500** | **63.7** | 1498 | 63.8 | 1501 | 63.7 | 8 | 1528 | 62.5 | 1531 | 62.4 | **1529** | **62.5** |
| 437.leslie3d | 8 | 3244 | 23.2 | **3211** | **23.4** | 3211 | 23.4 | 8 | 3152 | 23.9 | **3154** | **23.8** | 3157 | 23.8 |
| 444.namd | 8 | **658** | **97.6** | 664 | 96.7 | 656 | 97.9 | 8 | 659 | 97.3 | 650 | 98.7 | **650** | **98.6** |
| 447.dealII | 8 | 864 | 106 | **856** | **107** | 851 | 108 | 8 | **826** | **111** | 830 | 110 | 824 | 111 |
| 450.soplex | 8 | 2106 | 31.7 | 2110 | 31.6 | **2108** | **31.7** | 8 | 1955 | 34.1 | 1941 | 34.4 | **1945** | **34.3** |
| 453.povray | 8 | **287** | **148** | 287 | 148 | 286 | 149 | 8 | 239 | 178 | 243 | 175 | **241** | **177** |
| 454.calculix | 8 | 737 | 89.6 | 754 | 87.5 | **737** | **89.5** | 8 | 735 | 89.8 | 737 | 89.5 | **736** | **89.6** |
| 459.GemsFDTD | 8 | **3646** | **23.3** | 3647 | 23.3 | 3645 | 23.3 | 8 | 3637 | 23.3 | **3632** | **23.4** | 3631 | 23.4 |
| 465.tonto | 8 | **970** | **81.2** | 970 | 81.2 | 975 | 80.7 | 8 | 966 | 81.5 | 961 | 81.9 | **964** | **81.7** |
| 470.lbm | 8 | **4617** | **23.8** | 4614 | 23.8 | 4622 | 23.8 | 8 | 4298 | 25.6 | 4297 | 25.6 | **4297** | **25.6** |
| 481.wrf | 8 | 1994 | 44.8 | 1997 | 44.7 | **1994** | **44.8** | 8 | **1994** | **44.8** | 2008 | 44.5 | 1993 | 44.8 |
| 482.sphinx3 | 8 | **3292** | **47.4** | 3292 | 47.4 | 3296 | 47.3 | 8 | 3063 | 50.9 | **3063** | **50.9** | 3064 | 50.9 |

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

## General Notes

```
All programs compiled with the 64-bit compiler except
437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, at peak,
compiled with the 32-bit compiler
This result was measured on the Acer Altos R520
The Altos R720 and Altos R520 are electronically equivalent.

taskset was used to bind copies to cores
```

## Base Compiler Invocation

C benchmarks:
icc

Continued on next page

## 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
436.cactusADM: -DSPEC_CPU_LP64
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
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 -auto-ilp32

C++ benchmarks:
-fast -auto-ilp32

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:

435.gromacs: -fast -auto-ilp32 -nofor_main(*)

436.cactusADM: Same as 435.gromacs

Continued on next page

## Base Optimization Flags (Continued)

454.calculix: Same as 435.gromacs

481.wrf: -fast -auto-ilp32

(*) Indicates an optimization flag that was found in a portability variable.

## Peak Compiler Invocation

C benchmarks (except as noted below):
/opt/intel/cc/10.0.023/bin/icc -L/opt/intel/cc/10.0.023/lib
-I/opt/intel/cc/10.0.023/include

433.milc: icc

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

450.soplex: /opt/intel/cc/10.0.023/bin/icpc -L/opt/intel/cc/10.0.023/lib
-I/opt/intel/cc/10.0.023/include

Fortran benchmarks (except as noted below):
ifort

437.leslie3d: /opt/intel/fc/10.0.023/bin/ifort -L/opt/intel/fc/10.0.023/lib
-I/opt/intel/fc/10.0.023/include

Benchmarks using both Fortran and C:
icc ifort

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

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

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch

482.sphinx3: -fast -unroll2

Continued on next page

# Peak Optimization Flags (Continued)

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) -xT -ipo -O3 -no-prec-div

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

Fortran benchmarks:

410.bwaves: -fast

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: Same as 434.zeusmp

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

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

Benchmarks using both Fortran and C:

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

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

454.calculix: -fast -auto-ilp32 -nofor_main(*)

481.wrf: -fast -auto-ilp32

(*) Indicates an optimization flag that was found in a portability variable.

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.16.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.16.xml

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