# SPEC® CFP2006 Result

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## Acer Incorporated

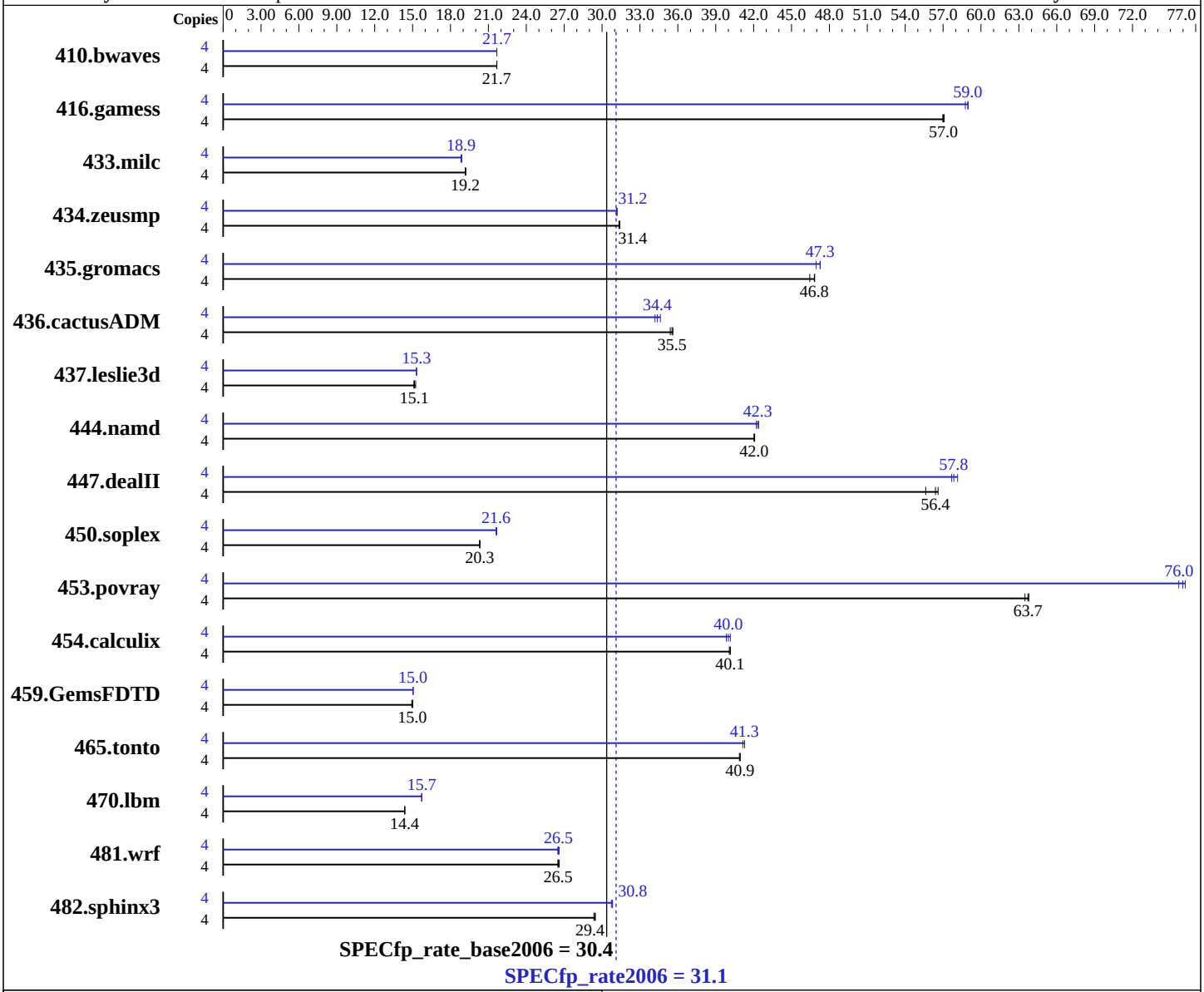
## Acer Altos R720 (Intel Xeon E5335)

SPECfp®_rate2006 = 31.1

SPECfp_rate_base2006 = 30.4

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

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




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5335 |
| CPU Characteristics: | 1333MHz system bus |
| CPU MHz: | 2000 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 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 | 4 | **2509** | **21.7** | 2508 | 21.7 | 2509 | 21.7 | 4 | **2508** | **21.7** | 2508 | 21.7 | 2509 | 21.7 |
| 416.gamess | 4 | 1375 | 57.0 | 1372 | 57.1 | **1373** | **57.0** | 4 | 1333 | 58.8 | 1328 | 59.0 | **1329** | **59.0** |
| 433.milc | 4 | 1911 | 19.2 | 1916 | 19.2 | **1916** | **19.2** | 4 | 1950 | 18.8 | **1948** | **18.9** | 1943 | 18.9 |
| 434.zeusmp | 4 | 1159 | 31.4 | **1161** | **31.4** | 1162 | 31.3 | 4 | **1168** | **31.2** | 1167 | 31.2 | 1169 | 31.1 |
| 435.gromacs | 4 | 610 | 46.8 | **610** | **46.8** | 615 | 46.4 | 4 | **604** | **47.3** | 608 | 46.9 | 604 | 47.3 |
| 436.cactusADM | 4 | 1342 | 35.6 | 1350 | 35.4 | **1345** | **35.5** | 4 | 1398 | 34.2 | 1381 | 34.6 | **1391** | **34.4** |
| 437.leslie3d | 4 | **2483** | **15.1** | 2490 | 15.1 | 2467 | 15.2 | 4 | 2455 | 15.3 | 2459 | 15.3 | **2457** | **15.3** |
| 444.namd | 4 | 763 | 42.0 | 762 | 42.1 | **763** | **42.0** | 4 | 757 | 42.4 | 760 | 42.2 | **758** | **42.3** |
| 447.dealII | 4 | 808 | 56.6 | 823 | 55.6 | **811** | **56.4** | 4 | 787 | 58.2 | 793 | 57.7 | **791** | **57.8** |
| 450.soplex | 4 | 1642 | 20.3 | 1642 | 20.3 | **1642** | **20.3** | 4 | **1543** | **21.6** | 1540 | 21.7 | 1543 | 21.6 |
| 453.povray | 4 | 335 | 63.5 | 334 | 63.8 | **334** | **63.7** | 4 | **280** | **76.0** | 281 | 75.7 | 279 | 76.2 |
| 454.calculix | 4 | 822 | 40.2 | 823 | 40.1 | **822** | **40.1** | 4 | 822 | 40.2 | 828 | 39.8 | **825** | **40.0** |
| 459.GemsFDTD | 4 | 2826 | 15.0 | **2832** | **15.0** | 2842 | 14.9 | 4 | 2824 | 15.0 | 2820 | 15.0 | **2823** | **15.0** |
| 465.tonto | 4 | 962 | 40.9 | 963 | 40.9 | **962** | **40.9** | 4 | 956 | 41.2 | 953 | 41.3 | **953** | **41.3** |
| 470.lbm | 4 | 3823 | 14.4 | **3822** | **14.4** | 3821 | 14.4 | 4 | **3495** | **15.7** | 3495 | 15.7 | 3496 | 15.7 |
| 481.wrf | 4 | 1686 | 26.5 | 1679 | 26.6 | **1684** | **26.5** | 4 | 1679 | 26.6 | **1684** | **26.5** | 1686 | 26.5 |
| 482.sphinx3 | 4 | **2649** | **29.4** | 2645 | 29.5 | 2656 | 29.3 | 4 | **2531** | **30.8** | 2528 | 30.8 | 2536 | 30.7 |

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

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## 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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