# SPEC® CFP2006 Result

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## Acer Incorporated

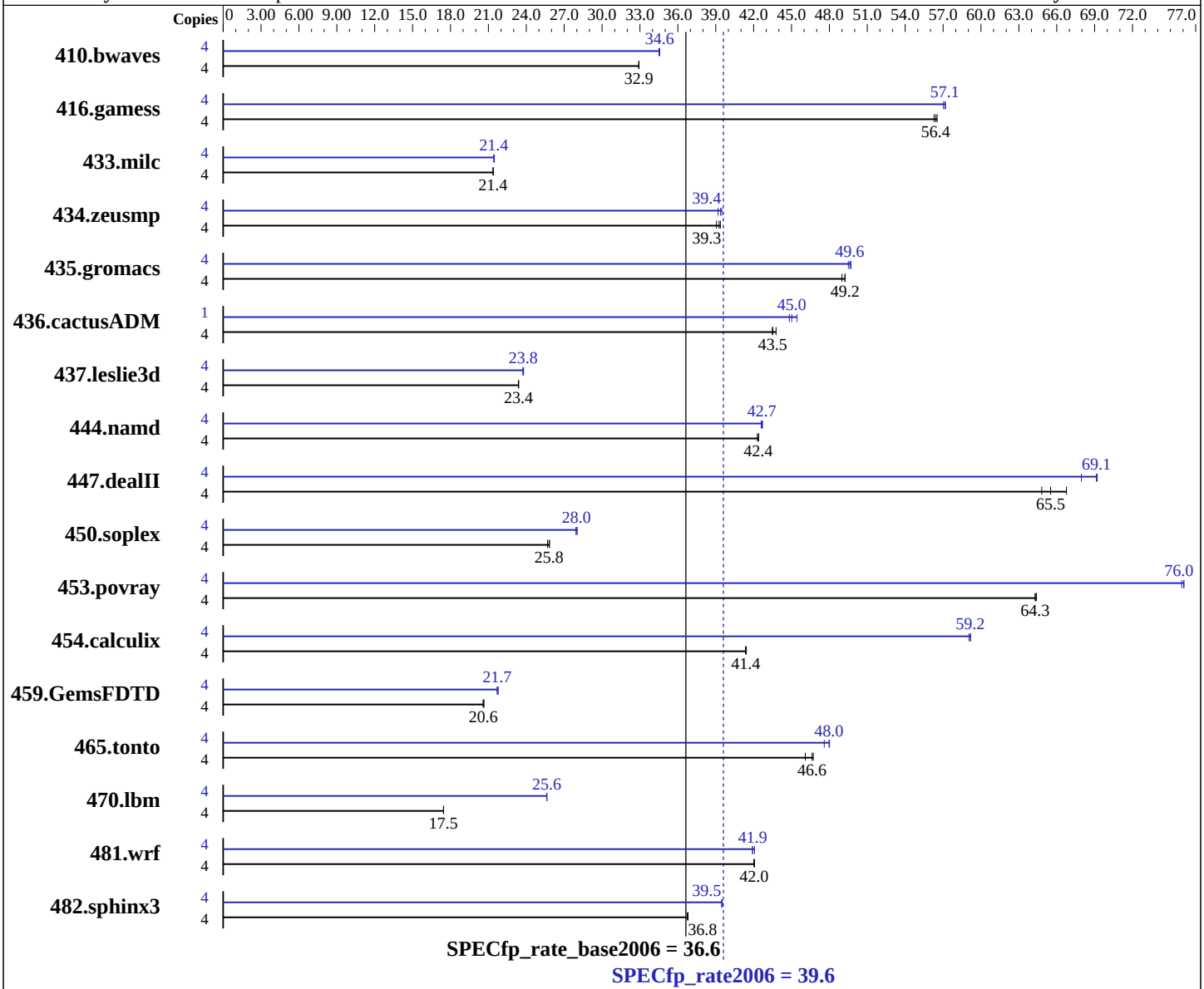
## Acer Altos R720 (Intel Xeon 5130)

SPECfp®_rate2006 = 39.6

SPECfp_rate_base2006 = 36.6

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

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




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 5130 |
| CPU Characteristics: | 1333MHz system bus |
| CPU MHz: | 2000 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1, 2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 4 MB I+D on chip per chip |

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## Software

| | |
|---|---|
| Operating System: | SuSE Linux Enterprise Server 10 SP1 EM64T (kernel 2.6.16.46-0.12-smp) |
| Compiler: | Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008 |
| Auto Parallel: | Yes |
| File System: | ReiserFS |
| System State: | Multi-user, 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 73GB 10000PRM SAS HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1
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 | 4 | **1652** | **32.9** | 1652 | 32.9 | 1651 | 32.9 | 4 | **1573** | **34.6** | 1572 | 34.6 | 1575 | 34.5 |
| 416.gamess | 4 | 1385 | 56.5 | 1391 | 56.3 | **1388** | **56.4** | 4 | **1370** | **57.1** | 1373 | 57.0 | 1369 | 57.2 |
| 433.milc | 4 | 1718 | 21.4 | 1718 | 21.4 | **1718** | **21.4** | 4 | 1710 | 21.5 | 1714 | 21.4 | **1713** | **21.4** |
| 434.zeusmp | 4 | 932 | 39.1 | 925 | 39.4 | **927** | **39.3** | 4 | 922 | 39.5 | **925** | **39.4** | 929 | 39.2 |
| 435.gromacs | 4 | 583 | 49.0 | 580 | 49.2 | **580** | **49.2** | 4 | **576** | **49.6** | 575 | 49.7 | 577 | 49.5 |
| 436.cactusADM | 4 | **1098** | **43.5** | 1092 | 43.8 | 1099 | 43.5 | 1 | 267 | 44.8 | 263 | 45.4 | **265** | **45.0** |
| 437.leslie3d | 4 | 1607 | 23.4 | **1608** | **23.4** | 1609 | 23.4 | 4 | 1581 | 23.8 | 1585 | 23.7 | **1583** | **23.8** |
| 444.namd | 4 | 757 | 42.4 | 758 | 42.3 | **757** | **42.4** | 4 | 751 | 42.7 | **752** | **42.7** | 753 | 42.6 |
| 447.dealII | 4 | 706 | 64.8 | 685 | 66.8 | **698** | **65.5** | 4 | **662** | **69.1** | 673 | 67.9 | 661 | 69.2 |
| 450.soplex | 4 | 1291 | 25.8 | 1299 | 25.7 | **1293** | **25.8** | 4 | 1190 | 28.0 | 1194 | 27.9 | **1193** | **28.0** |
| 453.povray | 4 | 330 | 64.4 | **331** | **64.3** | 331 | 64.3 | 4 | 280 | 76.1 | **280** | **76.0** | 280 | 75.9 |
| 454.calculix | 4 | 797 | 41.4 | 798 | 41.4 | **798** | **41.4** | 4 | **558** | **59.2** | 558 | 59.2 | 559 | 59.0 |
| 459.GemsFDTD | 4 | **2060** | **20.6** | 2061 | 20.6 | 2055 | 20.7 | 4 | **1955** | **21.7** | 1948 | 21.8 | 1956 | 21.7 |
| 465.tonto | 4 | **844** | **46.6** | 842 | 46.7 | 854 | 46.1 | 4 | **820** | **48.0** | 820 | 48.0 | 827 | 47.6 |
| 470.lbm | 4 | 3149 | 17.5 | **3150** | **17.5** | 3150 | 17.4 | 4 | **2145** | **25.6** | 2145 | 25.6 | 2144 | 25.6 |
| 481.wrf | 4 | 1063 | 42.0 | **1063** | **42.0** | 1062 | 42.1 | 4 | 1062 | 42.1 | **1066** | **41.9** | 1066 | 41.9 |
| 482.sphinx3 | 4 | 2118 | 36.8 | **2119** | **36.8** | 2121 | 36.8 | 4 | 1976 | 39.5 | 1973 | 39.5 | **1973** | **39.5** |

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

## General Notes

```
This result was measured on the Acer Altos R520.
The Altos R720 and Altos R520 are electronically equivalent.

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode

BIOS Setting
  Hardware Prefetcher set to ON
  Adjacent Cache Line Prefetch set to ON
  Optimization for high-frequency FSB applications set to ON

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

## Base Compiler Invocation

C benchmarks:
icc

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):
`/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

433.milc: `icc`

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

450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

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

437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib -I/opt/intel/fc/10.1.008/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`

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

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# Peak Optimization Flags (Continued)

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 -parallel -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.20090714.06.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.20090714.06.xml`


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For other inquiries, please contact webmaster@spec.org.

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