



# SPEC® CFP2006 Result

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Acer Incorporated

SPECfp®\_rate2006 = 35.9

Acer Altos G540 M2 (Intel Xeon E5502)

SPECfp\_rate\_base2006 = 35.0

CPU2006 license: 97

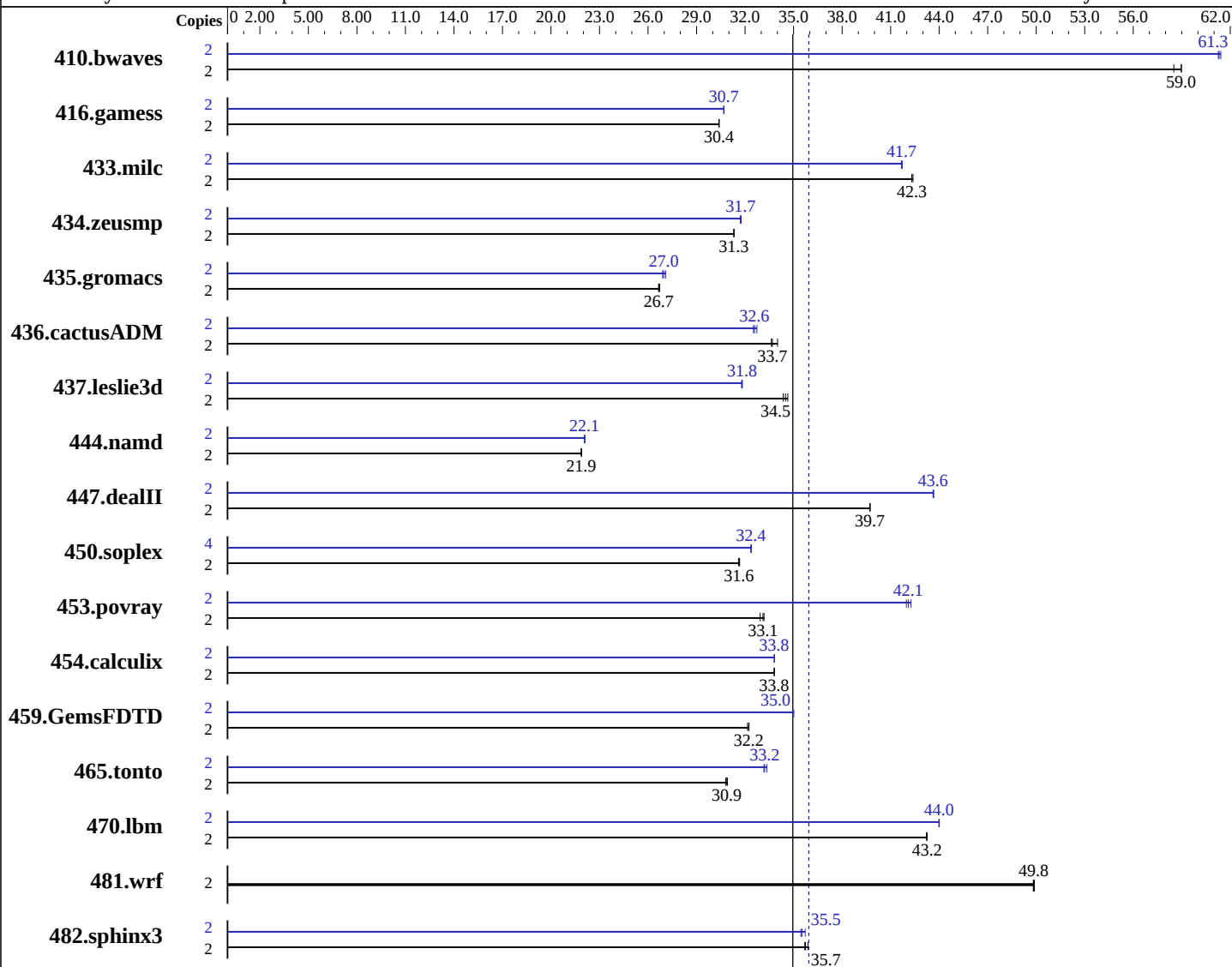
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: May-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009



SPECfp\_rate\_base2006 = 35.0

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## Hardware

CPU Name: Intel Xeon E5502  
CPU Characteristics: 1867  
CPU MHz: Integrated  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
CPU(s) orderable: 1,2 chips  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 256 KB I+D on chip per core

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## Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.080, l\_cprof\_p\_11.0.080  
Auto Parallel: No  
File System: ReiserFS  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit

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L3 Cache: 4 MB I+D on chip per chip  
Other Cache: None  
Memory: 12 GB (3 x 4 GB Registered ECC DDR3-1333)  
Disk Subsystem: 320 GB SATA, 7200 RPM  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: Binutils 2.18.50.0.7.20080502

## Results Table

| Benchmark     | Base   |                    |                    |                    |                    |                   |                    | Peak   |                    |                    |                    |                    |                    |                    |
|---------------|--------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|               | Copies | Seconds            | Ratio              | Seconds            | Ratio              | Seconds           | Ratio              | Copies | Seconds            | Ratio              | Seconds            | Ratio              | Seconds            | Ratio              |
| 410.bwaves    | 2      | <b><u>461</u></b>  | <b><u>59.0</u></b> | 465                | 58.5               | 461               | 59.0               | 2      | 444                | 61.3               | 443                | 61.4               | <b><u>443</u></b>  | <b><u>61.3</u></b> |
| 416.gamess    | 2      | <b><u>1289</u></b> | <b><u>30.4</u></b> | 1289               | 30.4               | 1288              | 30.4               | 2      | <b><u>1276</u></b> | <b><u>30.7</u></b> | 1276               | 30.7               | 1277               | 30.7               |
| 433.milc      | 2      | 433                | 42.4               | <b><u>434</u></b>  | <b><u>42.3</u></b> | 434               | 42.3               | 2      | <b><u>441</u></b>  | <b><u>41.7</u></b> | 441                | 41.7               | 440                | 41.7               |
| 434.zeusmp    | 2      | 581                | 31.3               | <b><u>581</u></b>  | <b><u>31.3</u></b> | 581               | 31.3               | 2      | 574                | 31.7               | <b><u>574</u></b>  | <b><u>31.7</u></b> | 573                | 31.8               |
| 435.gromacs   | 2      | 534                | 26.7               | <b><u>535</u></b>  | <b><u>26.7</u></b> | 536               | 26.7               | 2      | 531                | 26.9               | <b><u>529</u></b>  | <b><u>27.0</u></b> | 527                | 27.1               |
| 436.cactusADM | 2      | <b><u>709</u></b>  | <b><u>33.7</u></b> | 711                | 33.6               | 703               | 34.0               | 2      | 735                | 32.5               | <b><u>734</u></b>  | <b><u>32.6</u></b> | 730                | 32.7               |
| 437.leslie3d  | 2      | 547                | 34.4               | 543                | 34.6               | <b><u>545</u></b> | <b><u>34.5</u></b> | 2      | <b><u>591</u></b>  | <b><u>31.8</u></b> | 591                | 31.8               | 592                | 31.8               |
| 444.namd      | 2      | 733                | 21.9               | 733                | 21.9               | <b><u>733</u></b> | <b><u>21.9</u></b> | 2      | 727                | 22.1               | 726                | 22.1               | <b><u>727</u></b>  | <b><u>22.1</u></b> |
| 447.dealII    | 2      | 576                | 39.7               | 576                | 39.7               | <b><u>576</u></b> | <b><u>39.7</u></b> | 2      | 524                | 43.7               | 524                | 43.6               | <b><u>524</u></b>  | <b><u>43.6</u></b> |
| 450.soplex    | 2      | 528                | 31.6               | <b><u>527</u></b>  | <b><u>31.6</u></b> | 527               | 31.7               | 4      | 1031               | 32.4               | <b><u>1031</u></b> | <b><u>32.4</u></b> | 1030               | 32.4               |
| 453.povray    | 2      | <b><u>321</u></b>  | <b><u>33.1</u></b> | 323                | 32.9               | 321               | 33.2               | 2      | 252                | 42.3               | <b><u>253</u></b>  | <b><u>42.1</u></b> | 253                | 42.0               |
| 454.calculix  | 2      | 488                | 33.8               | <b><u>488</u></b>  | <b><u>33.8</u></b> | 488               | 33.8               | 2      | <b><u>488</u></b>  | <b><u>33.8</u></b> | 488                | 33.8               | 488                | 33.8               |
| 459.GemsFDTD  | 2      | 660                | 32.2               | <b><u>658</u></b>  | <b><u>32.2</u></b> | 658               | 32.2               | 2      | 607                | 34.9               | <b><u>607</u></b>  | <b><u>35.0</u></b> | 606                | 35.0               |
| 465.tonto     | 2      | 637                | 30.9               | <b><u>637</u></b>  | <b><u>30.9</u></b> | 639               | 30.8               | 2      | 590                | 33.3               | 593                | 33.2               | <b><u>593</u></b>  | <b><u>33.2</u></b> |
| 470.lbm       | 2      | <b><u>635</u></b>  | <b><u>43.2</u></b> | 635                | 43.2               | 636               | 43.2               | 2      | <b><u>625</u></b>  | <b><u>44.0</u></b> | 624                | 44.0               | 625                | 44.0               |
| 481.wrf       | 2      | 448                | 49.9               | 448                | 49.8               | <b><u>448</u></b> | <b><u>49.8</u></b> | 2      | 448                | 49.9               | 448                | 49.8               | <b><u>448</u></b>  | <b><u>49.8</u></b> |
| 482.sphinx3   | 2      | 1086               | 35.9               | <b><u>1091</u></b> | <b><u>35.7</u></b> | 1092              | 35.7               | 2      | 1100               | 35.4               | 1091               | 35.7               | <b><u>1097</u></b> | <b><u>35.5</u></b> |

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was set for stacksize unlimited

## Platform Notes

BIOS setting  
Hardware Prefetcher: Enabled  
Adjacent Cache Line Prefetch: Enabled



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CPU2006 license: 97

Test sponsor: Acer Incorporated

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Test date: May-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static



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## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

482.sphinx3: icc -m32

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

450.soplex: icpc -m32

Fortran benchmarks (except as noted below):  
ifort

437.leslie3d: ifort -m32

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  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-auto-ilp32

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## Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -O0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -O0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

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## Peak Optimization Flags (Continued)

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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