



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 34.2

## Acer Altos R720 (Intel Xeon X5270)

## SPECfp\_rate\_base2006 = 32.9

CPU2006 license: 97

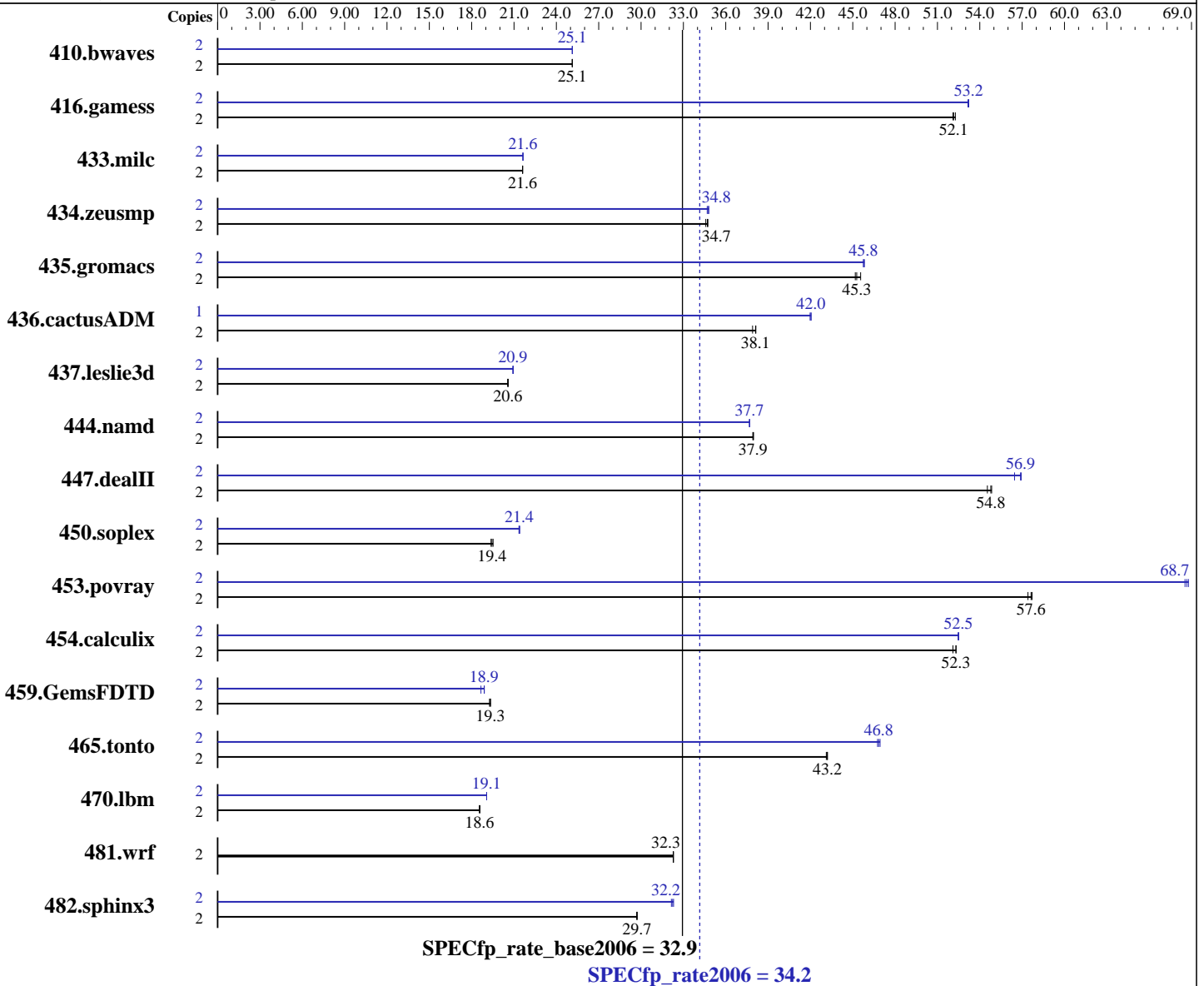
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5270  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3500  
 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: 6 MB I+D on chip per chip

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### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042, l\_cprof\_b\_11.0.042  
 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 10K RPM SAS HDD  
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	1082	25.1	<b>1082</b>	<b>25.1</b>	1082	25.1	2	1082	25.1	1082	25.1	<b>1082</b>	<b>25.1</b>
416.gamess	2	<b>751</b>	<b>52.1</b>	752	52.1	749	52.3	2	736	53.2	737	53.2	<b>736</b>	<b>53.2</b>
433.milc	2	850	21.6	850	21.6	<b>850</b>	<b>21.6</b>	2	849	21.6	849	21.6	<b>849</b>	<b>21.6</b>
434.zeusmp	2	<b>525</b>	<b>34.7</b>	526	34.6	524	34.7	2	525	34.7	523	34.8	<b>523</b>	<b>34.8</b>
435.gromacs	2	313	45.6	316	45.2	<b>315</b>	<b>45.3</b>	2	<b>312</b>	<b>45.8</b>	312	45.8	312	45.8
436.cactusADM	2	631	37.9	<b>627</b>	<b>38.1</b>	627	38.1	1	285	42.0	284	42.0	<b>284</b>	<b>42.0</b>
437.leslie3d	2	<b>914</b>	<b>20.6</b>	913	20.6	915	20.6	2	897	20.9	899	20.9	<b>898</b>	<b>20.9</b>
444.namd	2	422	38.0	423	37.9	<b>423</b>	<b>37.9</b>	2	425	37.7	426	37.7	<b>426</b>	<b>37.7</b>
447.dealII	2	417	54.8	<b>418</b>	<b>54.8</b>	420	54.5	2	402	56.9	<b>402</b>	<b>56.9</b>	405	56.5
450.soplex	2	855	19.5	861	19.4	<b>858</b>	<b>19.4</b>	2	<b>780</b>	<b>21.4</b>	779	21.4	781	21.3
453.povray	2	<b>185</b>	<b>57.6</b>	184	57.7	185	57.4	2	155	68.8	155	68.5	<b>155</b>	<b>68.7</b>
454.calculix	2	317	52.1	315	52.3	<b>315</b>	<b>52.3</b>	2	314	52.5	<b>314</b>	<b>52.5</b>	314	52.5
459.GemsFDTD	2	1102	19.3	1097	19.3	<b>1098</b>	<b>19.3</b>	2	1137	18.7	1123	18.9	<b>1124</b>	<b>18.9</b>
465.tonto	2	456	43.1	<b>456</b>	<b>43.2</b>	455	43.2	2	419	46.9	<b>420</b>	<b>46.8</b>	421	46.8
470.lbm	2	1478	18.6	1481	18.6	<b>1481</b>	<b>18.6</b>	2	1442	19.1	<b>1442</b>	<b>19.1</b>	1442	19.1
481.wrf	2	<b>692</b>	<b>32.3</b>	692	32.3	692	32.3	2	<b>692</b>	<b>32.3</b>	692	32.3	692	32.3
482.sphinx3	2	1311	29.7	<b>1312</b>	<b>29.7</b>	1313	29.7	2	1207	32.3	<b>1209</b>	<b>32.2</b>	1213	32.1

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.  
taskset was used to bind processes to cores except  
for 436.cactusADM peak

## Platform Notes

BIOS Settings  
High Bandwidth Optimization set to ON



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## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M  
'ulimit -s unlimited' was set for stacksize unlimited  
This result was measured on the Acer Altos R520.  
The Altos R720 and Altos R520 are electronically equivalent.

## 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:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

482.sphinx3: /opt/intel/Compiler/11.0/042/bin/ia32/icc  
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib  
-I/opt/intel/Compiler/11.0/042/ipp/ia32/include

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/Compiler/11.0/042/bin/ia32/icpc  
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib  
-I/opt/intel/Compiler/11.0/042/ipp/ia32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/Compiler/11.0/042/bin/ia32/ifort  
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib  
-I/opt/intel/Compiler/11.0/042/ipp/ia32/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

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## Peak Portability Flags (Continued)

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

470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch  
 -auto-ilp32

482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

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

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

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

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

Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -unroll2 -Ob0 -ansi-alias  
 -scalar-rep-

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

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

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## Peak Optimization Flags (Continued)

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch

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

Benchmarks using both Fortran and C:

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

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

454.calculix: -xSSE4.1 -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.20090713.03.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.20090713.03.xml>

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

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